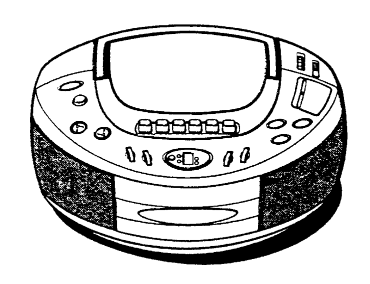


CSD-A510 LH(S),EZ(S),K(S)
CSD-A519 LH1J(S)



SERVICE MANUAL

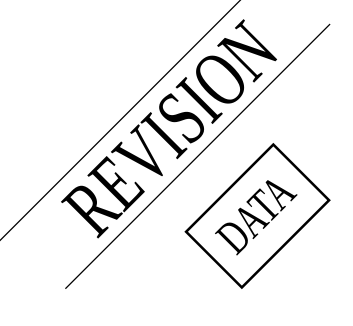
COMPACT DISC RADIO
CASSETTE RECORDER

BASIC TAPE MECHANISM : TN-21ZVC-2000
BASIC CD MECHANISM : DA11T3C

This Service Manual is the "Revision Publishing" and replaces "Simple Manual"
CSD-A510 LH(S)(S/M Code No. 09-003-343-2T1)
CSD-A510 EZ(S),K(S)/A519 LH1J(S)(S/M Code No. 09-003-343-2T2).



S/M Code No. 09-003-343-2R1



SPECIFICATIONS

LH, HA MODELS

Tuner section
Frequency range, antenna — FM: 87.5 - 108.0 MHz Rod antenna, AM: 530 - 1,710 kHz Ferrite bar antenna

Deck section
Track format — 4 tracks, 2 channels / Frequency range — Normal tape: 50 - 12,500 Hz (EIAJ) / Recording system — AC bias / Erasing system — Magnet erase / Heads — Recording/playback head (1), Erasure head (1)

CD player section
Disc — Compact disc / Scanning method — Non-contact optical scanner (semiconductor laser)

General
Speaker — 80 mm cone type (2) / Output — Headphones jack (stereo mini-jack) / Power output — 2.5 W + 2.5 W (EIAJ 7 ohms, T.H.D. 10%), 1.9 W + 1.9 W (DIN 1% Rated Power) / Power requirements — DC 12 V using eight size C (R14) batteries, AC 110 - 120 V/220 - 240 V switchable, 50/60 Hz / Power consumption — 14 W / Dimensions — 302 (W) × 162 (H) × 253 (D) mm / Weight (excluding batteries) — 2.7 kg

- Design and specifications are subject to change without notice.

K MODEL

Tuner section
Frequency range, antenna — FM: 87.5 - 108.0 MHz Rod antenna, MW: 530 - 1,605 kHz Ferrite bar antenna, LW: 150 - 285 kHz Ferrite bar antenna

Deck section
Track format — 4 tracks, 2 channels / Frequency range — Normal tape: 50 - 12,500 Hz (EIAJ) / Recording system — AC bias / Erasing system — Magnet erase / Heads — Recording/playback head (1), Erasure head (1)

CD player section
Disc — Compact disc / Scanning method — Non-contact optical scanner (semiconductor laser)

General
Speaker — 80 mm cone type (2) / Output — Headphones jack (stereo mini-jack) / Power output — 2.5 W + 2.5 W (EIAJ 7 ohms, T.H.D. 10% DC), 1.9 W + 1.9 W (DIN 1% Rated Power) / Power requirements — DC 12 V using eight size C (R14) batteries, AC 230 V, 50 Hz / Power consumption — 14 W / Dimensions — 302 (W) × 162 (H) × 253 (D) mm / Weight — 2.7 kg (excluding batteries)

- Design and specifications are subject to change without notice.

EZ MODEL

Tuner section
Frequency range, antenna — FM: 87.5 - 108.0 MHz Rod antenna, MW: 530 - 1,605 kHz Ferrite bar antenna, LW: 150 - 285 kHz Ferrite bar antenna

Deck section
Track format — 4 tracks, 2 channels / Frequency range — Normal tape: 50 - 12,500 Hz (EIAJ) / Recording system — AC bias / Erasing system — Magnet erase / Heads — Recording/playback head (1), Erasure head (1)

CD player section
Disc — Compact disc / Scanning method — Non-contact optical scanner (semiconductor laser)

General
Speaker — 80 mm cone type (2) / Output — Headphones jack (stereo mini-jack) / Power output — 2.9 W + 2.9 W (DIN MUSIC POWER), 2.5 W + 2.5 W (EIAJ 7 ohms, T.H.D. 10% DC), 1.9 W + 1.9 W (DIN 1% Rated Power) / Power requirements — DC 12 V using eight size C (R14) batteries, AC 230 V, 50 Hz / Power consumption — 14 W / Dimensions — 302 (W) × 162 (H) × 253 (D) mm / Weight — 2.7 kg (excluding batteries)

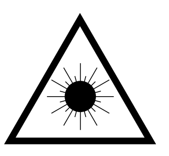
- Design and specifications are subject to change without notice.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

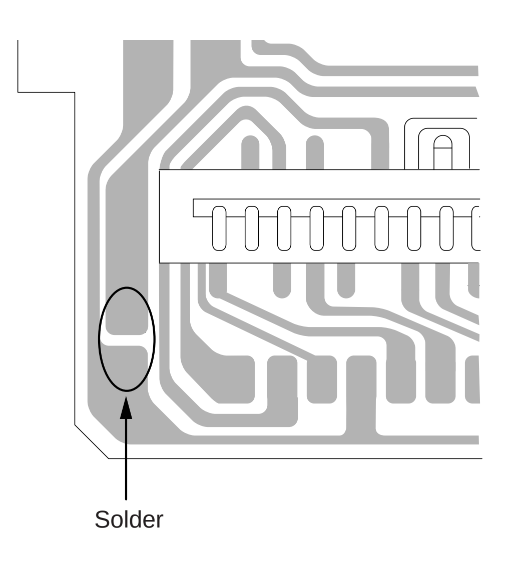
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

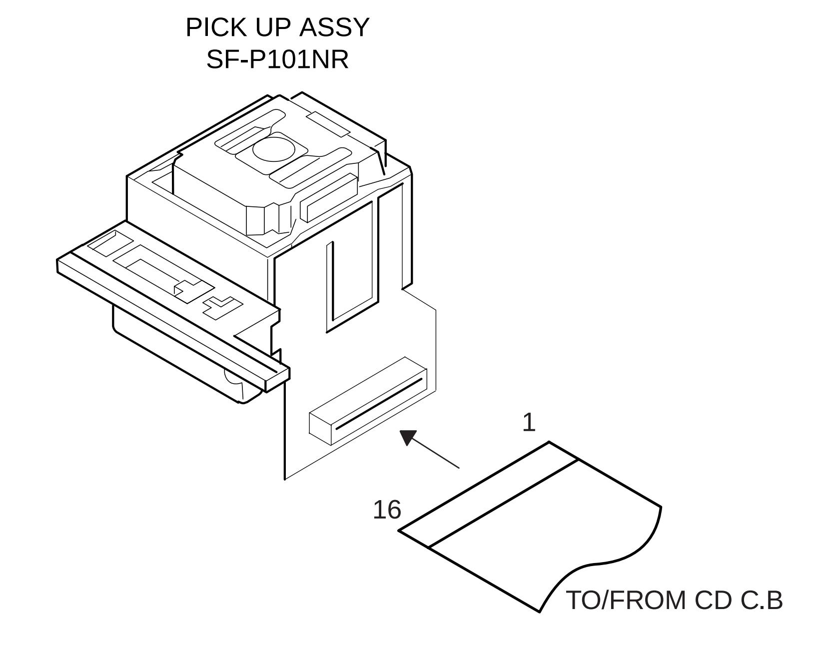
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block (SF-P101NR)

> Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.





ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

IC

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	87-A20-955-010		IC,LA1828
	87-A21-064-010		IC,LA4227
	87-A21-520-040		C-IC,M61509FP
	87-A20-446-010		C-IC,LA9241ML
	87-A20-459-010		C-IC,LC78622ED
	87-A21-093-010		IC,LA6541D
	8A-CD9-610-010		C-IC,LC865516A-5K51
	87-A21-431-010		IC,BA4560N

TRANSISTOR

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	89-327-143-080		TR,2SC2714 (0.1W)
	87-026-447-080		TR,2SC1740S R
	87-026-463-080		TR,2SA933S (0.3W)
	87-026-213-080		CHIP-TR,DTC114YK
	89-112-965-080		TR,2SA1296 (0.75W)
	87-026-291-080		TR,DTC124XS
	89-213-702-080		TR,2SB1370E
	87-026-462-080		TR,2SC1740 S(RS 0.3W)
	89-318-154-080		TR,2SC1815 (0.4W)
	89-109-332-380		TR,2SA933RS
	89-113-187-080		TR,2SA1318TU
	87-026-295-080		TR,DTC144TK
	89-317-403-080		TR,2SC1740S
	87-026-239-080		TR,DTC114TK (0.2W)
	87-026-464-080		TR,DTC114TS (0.3W)

DIODE

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	87-020-465-080		DIODE,1SS133 (110MA)
	87-A40-128-080		C-VARI-CAP,HVU202A
	87-027-607-080		ZENER,HZ7B3L
	87-070-345-080		DIODE,IN4148
	87-A40-648-080		ZENER,MTZJ8.2A
	87-017-978-080		DIODE,1N4003
	87-027-702-080		DIODE,ZENER HZ6C2L (200MA)
	87-A40-465-010		DIODE,FR202

MAIN C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C211	87-A11-603-080		CAP, S 0.15-16
C212	87-A11-603-080		CAP, S 0.15-16
C215	87-016-460-080		C-CAP,S 0.22-16 B
C216	87-016-460-080		C-CAP,S 0.22-16 B
C231	87-010-213-080		C-CAP,S 0.015-50 B
C232	87-010-213-080		C-CAP,S 0.015-50 B
C233	87-A10-201-080		C-CAP,S0.33-16 KB
C234	87-A10-201-080		C-CAP,S0.33-16 KB
C235	87-016-669-080		C-CAP,S 0.1-25 K B
C236	87-016-669-080		C-CAP,S 0.1-25 K B
C237	87-010-371-080		CAP, ELECT 470-50V
C239	87-010-197-080		CAP, CHIP 0.01 DM
C240	87-010-197-080		CAP, CHIP 0.01 DM
C247	87-010-401-080		CAP, ELECT 1-50V
C248	87-010-401-080		CAP, ELECT 1-50V
C310	87-010-248-080		CAP, ELECT 220-10V
C316	87-010-263-080		CAP,E 100-10
C317	87-010-197-080		CAP, CHIP 0.01 DM
C801	87-010-248-080		CAP, ELECT 220-10V
C805	87-012-365-080		C-CAP,S 0.027-25VBK
C806	87-012-365-080		C-CAP,S 0.027-25VBK
C807	87-010-405-080		CAP, ELECT 10-50V
C808	87-010-405-080		CAP, ELECT 10-50V
C809	87-010-401-080		CAP, ELECT 1-50V
C810	87-010-401-080		CAP, ELECT 1-50V
C811	87-010-178-080		CHIP CAP 1000P
C812	87-010-178-080		CHIP CAP 1000P
C816	87-010-180-080		C-CER 1500P
C817	87-010-180-080		C-CER 1500P
C821	87-010-401-080		CAP, ELECT 1-50V
C822	87-010-401-080		CAP, ELECT 1-50V
C823	87-010-178-080		CHIP CAP 1000P
C824	87-010-178-080		CHIP CAP 1000P
C829	87-010-178-080		CHIP CAP 1000P
C830	87-010-178-080		CHIP CAP 1000P
C833	87-018-195-080		CAP, CER 1200P-16V
C834	87-010-248-080		CAP, ELECT 220-10V
C835	87-010-322-080		C-CAP,S 100P-50 CH
C836	87-010-322-080		C-CAP,S 100P-50 CH
C843	87-010-197-080		CAP, CHIP 0.01 DM
C844	87-018-124-080		CAP, CER 270P-50V
C845	87-010-178-080		CHIP CAP 1000P
C846	87-010-263-080		CAP, ELECT 100-10V
C851	87-010-186-080		CAP,CHIP 4700P
C852	87-010-178-080		CHIP CAP 1000P
C853	87-018-211-080		CAP, CER 0.01-50<LH<S>>
C853	87-A11-145-080		CAP,TC U 0.01-50 Z F<EXCEPT LH<S>>
CN201	87-099-018-010		CONN,16P
CN801	87-A60-110-010		CONN,4P V S2M-4W
CNA302	8A-CD9-629-010		CONN ASSY,6P MA-TU
CNA801	8A-CD9-630-010		CONN ASSY, 4P RPH
L801	87-007-342-010		COIL,OSC 85K BIAS
SW801	8Z-CD9-609-010		SW,SL 1-6-2 PS62D01

CD C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C30	87-010-260-080		CAP, ELECT 47-25V
C261	87-010-402-080		CAP, ELECT 2.2-50V
C262	87-010-402-080		CAP, ELECT 2.2-50V
C263	87-010-178-080		CHIP CAP 1000P
C264	87-010-178-080		CHIP CAP 1000P
C265	87-010-263-080		CAP, ELECT 100-10V
C266	87-010-263-080		CAP, ELECT 100-10V
C267	87-010-112-080		CAP, ELECT 100-16V
C268	87-010-112-080		CAP, ELECT 100-16V
C271	87-010-237-080		CAP, ELECT 1000-16V
C272	87-010-237-080		CAP, ELECT 1000-16V
C278	87-010-405-080		CAP, ELECT 10-50V
C279	87-010-385-080		CAP, ELECT 220-25V
⚠C301	87-016-495-000		CAP,E 3300-25 M SMG
C306	87-010-404-080		CAP, ELECT 4.7-50V
C307	87-010-401-080		CAP, ELECT 1-50V
C308	87-010-221-080		CAP, ELECT 470-10V
C311	87-010-263-080		CAP, ELECT 100-10V
C312	87-010-385-080		CAP, ELECT 220-25V
C321	87-010-197-080		CAP, CHIP 0.01 DM
C322	87-010-263-080		CAP, ELECT 100-10V
C325	87-010-405-080		CAP, ELECT 10-50V
C401	87-010-403-080		CAP, ELECT 3.3-50V
C402	87-010-197-080		CAP, CHIP 0.01 DM
C403	87-010-263-080		CAP, ELECT 100-10V
C404	87-010-248-080		CAP, ELECT 220-10V
C405	87-010-197-080		CAP, CHIP 0.01 DM
C406	87-010-374-080		CAP, ELECT 47-10V
C407	87-010-178-080		CHIP CAP 1000P
C408	87-010-198-080		CAP, CHIP 0.022
C409	87-010-248-080		CAP, ELECT 220-10V
C410	87-010-263-080		CAP, ELECT 100-10V
C411	87-A11-177-080		C-CAP,S 0.15-16 K B
C412	87-010-401-080		CAP, ELECT 1-50V
C413	87-016-369-080		C-CAP,S 0.033-25 B K
C414	87-010-405-080		CAP, ELECT 10-50V
C416	87-010-545-080		CAP, ELECT 0.22-50V
C417	87-012-157-080		C-CAP,S 330P-50 CH
C418	87-010-213-080		C-CAP,S 0.015-50 B
C419	87-A11-608-080		C-CAP,S 0.33-25 K B
C420	87-016-369-080		C-CAP,S 0.033-25 B K
C421	87-A11-177-080		C-CAP,S 0.15-16 K B
C422	87-010-183-080		C-CAP,S 2700P-50 B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C423	87-010-956-080		CHIP-CAP,S 0.068-25B
C424	87-010-993-080		C-CAP,S 0.056-25 B
C425	87-010-176-080		C-CAP,S 680P-50 SL
C426	87-A11-608-080		C-CAP,S 0.33-25 K B
C428	87-010-197-080		CAP, CHIP 0.01 DM
C429	87-010-186-080		CAP,CHIP 4700P
C430	87-012-156-080		C-CAP,S 220P-50 CH
C431	87-010-545-080		CAP, ELECT 0.22-50V
C432	87-010-374-080		CAP, ELECT 47-10V
C433	87-010-401-080		CAP, ELECT 1-50V
C434	87-010-184-080		CHIP CAPACITOR 3300P(K)
C435	87-010-197-080		CAP, CHIP 0.01 DM
C436	87-010-374-080		CAP, ELECT 47-10V
C437	87-010-404-080		CAP, ELECT 4.7-50V
C438	87-016-669-080		C-CAP,S 0.1-25 K B
C439	87-010-178-080		CHIP CAP 1000P
C440	87-010-145-080		C-CAP, S 1P-50 C CH
C441	87-010-197-080		CAP, CHIP 0.01 DM
C442	87-010-312-080		C-CAP,S 15P-50 CH
C445	87-012-368-080		C-CAP,S 0.1-50 F
C446	87-012-368-080		C-CAP,S 0.1-50 F
C447	87-012-368-080		C-CAP,S 0.1-50 F
C448	87-010-315-080		C-CAP,S 27P-50 CH
C450	87-012-140-080		CAP 470P
C451	87-012-156-080		C-CAP,S 220P-50 CH
C455	87-010-247-080		CAP, ELECT 100-50V
C457	87-010-312-080		C-CAP,S 15P-50 CH
C458	87-010-312-080		C-CAP,S 15P-50 CH
C459	87-010-263-080		CAP, ELECT 100-10V
C460	87-015-819-080		CAPACITOR,0.01
C461	87-010-197-080		CAP, CHIP 0.01 DM
C462	87-010-248-080		CAP, ELECT 220-10V
C463	87-010-197-080		CAP, CHIP 0.01 DM
C465	87-010-404-080		CAP, ELECT 4.7-50V
C466	87-012-368-080		C-CAP,S 0.1-50 F
C467	87-010-263-080		CAP, ELECT 100-10V
C469	87-012-154-080		C-CAP,S 150P-50 CH
C470	87-010-544-080		CAP, ELECT 0.1-50V
C471	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C472	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C473	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C474	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C475	87-010-197-080		CAP, CHIP 0.01 DM
C476	87-010-236-080		CAP,E 1000-10 SME
C477	87-010-197-080		CAP, CHIP 0.01 DM
C478	87-010-263-080		CAP, ELECT 100-10V
C479	87-010-197-080		CAP, CHIP 0.01 DM
C480	87-010-221-080		CAP, ELECT 470-10V
C481	87-010-405-080		CAP, ELECT 10-50V
C482	87-010-405-080		CAP, ELECT 10-50V
C483	87-012-156-080		C-CAP,S 220P-50 CH
C484	87-012-156-080		C-CAP,S 220P-50 CH
C489	87-012-368-080		C-CAP,S 0.1-50 F
C490	87-012-368-080		C-CAP,S 0.1-50 F
C491	87-010-197-080		CAP, CHIP 0.01 DM
C492	87-010-221-080		CAP, ELECT 470-10V
C494	87-010-197-080		CAP, CHIP 0.01 DM
C495	87-016-669-080		C-CAP,S 0.1-25 K B
C501	87-012-368-080		C-CAP,S 0.1-50 F
C502	87-010-322-080		C-CAP,S 100P-50 CH
C503	87-010-322-080		C-CAP,S 100P-50 CH
C504	87-010-322-080		C-CAP,S 100P-50 CH
C505	87-010-322-080		C-CAP,S 100P-50 CH
C506	87-010-322-080		C-CAP,S 100P-50 CH
C510	87-016-669-080		C-CAP,S 0.1-25 K B
C831	87-010-198-080		CAP, CHIP 0.022
CN202	8A-CH4-689-010		CONN,3P V 2.5
CN205	87-A60-109-010		CONN,2P V S2M-2W
CN301	8A-CH4-689-010		CONN,3P V 2.5
CN401	87-A60-424-010		CONN,16P V TOC-B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
CN403	87-099-201-010		CONN,8P 6216 H
CN802	8A-CH4-687-010		CONN,4P V 2.5
CNA205	8A-CD9-631-010		CONN ASSY, 2P DOOR
CNA402	8A-CD9-625-010		CONN ASSY,6P CD-ME
CNA802	8A-CD9-631-010		CONN ASSY, 4P TP-ME
L401	87-003-102-080		COIL, 10UH
L404	87-003-152-080		COIL, 100UH
⚠R840	87-029-124-010		RES,FUSE 2.2-1/4
SFR430	87-024-437-080		SFR100K,RH063EC
SW205	87-036-389-010		SW, PUSH 1-1-1 R8120125
X401	8Z-CD5-633-010		VIB, CER16.93MHZ FCR16.93M2

FRONT C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C601	87-010-313-080		CAP, CHIP 18P
C602	87-010-315-080		C-CAP,S 27P-50 CH
C603	87-010-319-080		C-CAP,S 56P-50 CH
C604	87-010-317-010		CHIP CAP,S 39P CH
C605	87-010-264-040		CAP,E 100-10 5L
C606	87-012-368-080		C-CAP,S 0.1-50 F
C607	87-015-779-010		CHIP CAPACITOR, 0.01
C608	87-010-401-080		CAP, ELECT 1-50V
C609	87-010-400-080		CAP, ELECT 0.47-50V
C611	87-A10-189-040		CAP,E 220-10 M5L
C613	87-012-368-080		C-CAP,S 0.1-50 F
C614	87-010-312-080		C-CAP,S 15P-50 CH
C617	87-012-368-080		C-CAP,S 0.1-50 F
C618	87-018-209-080		CAP,TC U 0.1-50 ZF
C620	87-015-819-080		C-CAP,0.01-50 K B
C621	87-015-819-080		C-CAP,0.01-50 K B
C622	87-015-779-010		CHIP CAPACITOR, 0.01
C623	87-015-779-010		CHIP CAPACITOR, 0.01
C624	87-015-779-010		CHIP CAPACITOR, 0.01
C625	87-015-779-010		CHIP CAPACITOR, 0.01
C626	87-015-779-010		CHIP CAPACITOR, 0.01
C627	87-015-779-010		CHIP CAPACITOR, 0.01
C628	87-018-209-080		CAP,TC U 0.1-50 ZF UP050
C629	87-018-119-080		CAP,TC U 100P-50 K B UP050
C630	87-018-119-080		CAP,TC U 100P-50 K B UP050
C631	87-018-119-080		CAP,TC U 100P-50 K B UP050
C632	87-018-119-080		CAP,TC U 100P-50 K B UP050
CN601	87-099-033-010		CONN,16P 6216H
CN602	87-099-201-010		CONN,8P 6216 H
L601	87-003-102-080		COIL, 10UH
L602	87-003-147-080		COIL,22UH J LAL02
L603	87-005-798-010		COIL,1.0UH J LAL02
L604	87-005-798-010		COIL,1.0UH J LAL02
L606	87-003-149-080		COIL,47UH J LAL02
LED601	88-CD6-630-010		LED,934ID RED
LED602	88-CD6-630-010		LED,934ID RED
LED603	88-CD6-630-010		LED,934ID RED
LED608	88-CD6-630-010		LED,934ID RED
LED610	88-CD6-631-010		LED,934GD GRN
LED611	87-CD8-616-010		LED,SA36-11 HWA-11.0
S601	87-A90-696-080		SW,TACT TS2103-03-430
S602	87-A90-696-080		SW,TACT TS2103-03-430
S603	87-A90-696-080		SW,TACT TS2103-03-430
S604	87-A90-696-080		SW,TACT TS2103-03-430
S605	87-A90-696-080		SW,TACT TS2103-03-430
S609	87-A90-696-080		SW,TACT TS2103-03-430
S611	87-A90-696-080		SW,TACT TS2103-03-430
S614	87-A90-696-080		SW,TACT TS2103-03-430
S615	87-A90-696-080		SW,TACT TS2103-03-430
X601	87-030-273-010		VIB,XTAL 32.768K5PPM
X602	87-030-376-080		VIB,CER CSA5.76MG200

TUNER C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C1	87-010-314-080		C-CAP,S 22P-50V

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C2	87-010-316-080		C-CAP,S 33P-50 CH
C3	87-010-314-080		C-CAP,S 22P-50V
C4	87-010-322-080		C-CAP,S 100P-50 CH
C5	87-010-378-080		CAP, ELECT 10-16V
C7	87-012-156-080		C-CAP,S 220P-50 CH
C8	87-010-197-080		CAP, CHIP 0.01 DM
C9	87-010-311-080		CAP 12P
C10	87-010-197-080		CAP, CHIP 0.01 DM
C11	87-010-152-080		C-CAP,S 8P-50 D CH
C12	87-010-314-080		C-CAP,S 22P-50V
C13	87-010-322-080		C-CAP,S 100P-50 CH
C14	87-010-148-080		C-CAP,S 4P-50 C CH
C15	87-016-669-080		C-CAP,S 0.1-25 K B
C16	87-010-178-080		CHIP CAP 1000P
C17	87-016-669-080		C-CAP,S 0.1-25 K B
C18	87-010-197-080		CAP, CHIP 0.01 DM <LH<S>,519LH1J<S>>
C18	87-010-188-080		CAP,CHIP 6800P<K<S>,EZ<S>>
C19	87-016-669-080		C-CAP,S 0.1-25 K B
C20	87-010-400-080		CAP, ELECT 0.47-50V
C21	87-010-403-080		CAP, ELECT 3.3-50V
C22	87-010-197-080		CAP, CHIP 0.01 DM
C24	87-A11-569-080		C-CAP,S 0.012-50 K B <LH<S>,519LH1J<S>>
C24	87-010-189-080		C-CAP,S 8200P-50 K B<K<S>,EZ<S>>
C25	87-010-189-080		C-CAP,S 8200P-50 K B<K<S>,EZ<S>>
C25	87-A11-569-080		C-CAP,S 0.012-50 K B <LH<S>,519LH1J<S>>
C26	87-012-358-080		C-CAP,S 0.47-10 Z F
C27	87-012-358-080		C-CAP,S 0.47-10 Z F
C28	87-010-992-080		C-CAP,S 0.047-25 B
C29	87-010-992-080		C-CAP,S 0.047-25 B
C30	87-010-248-080		CAP, ELECT 220-10V
C31	87-010-379-080		CAP, ELECT 22-16V
C32	87-010-197-080		CAP, CHIP 0.01 DM
C33	87-010-197-080		CAP, CHIP 0.01 DM
C34	87-010-197-080		CAP, CHIP 0.01 DM
C35	87-010-197-080		CAP, CHIP 0.01 DM
C36	87-010-263-080		CAP, ELECT 100-10V
C37	87-010-197-080		CAP, CHIP 0.01 DM
C40	87-010-329-080		C-CAP,S 6P-50 D UJ<K<S>,EZ<S>>
C41	87-010-321-080		CHIP CAPACITOR,82P(J)<K<S>,EZ<S>>
C42	87-010-150-080		C-CAP,S 6P-50 CH<K<S>,EZ<S>>
C44	87-012-140-080		CAP 470P<K<S>,EZ<S>>
C51	87-010-197-080		CAP, CHIP 0.01 DM
C56	87-010-327-080		C-CAP,S 4P-50 C UJ <LH<S>,519LH1J<S>>
C92	87-010-178-080		CHIP CAP 1000P
CF1	87-A90-128-010		FLTR,AM IF CFAL-455
CF2	87-008-261-010		FILTER, SFE10.7MA5-A
CF3	87-008-261-010		FILTER, SFE10.7MA5-A
CN2	87-A60-116-010		CONN,6P H S2M-6WR
L2	87-A50-560-010		COIL,FM BPF(ACD)
L3	8A-CD9-660-010		BAR-ANT,MW 2B-ACD(COI) <LH<S>,519LH1J<S>>
L3	8A-CD9-661-010		BAR-ANT,MW/LW 3B-ACD(COI) <K<S>,EZ<S>>
L4	87-A50-562-010		COIL,FM RF EX(ACD)
L5	87-A50-564-010		COIL,FM OSC EX(ACD)
L6	87-A50-337-010		COIL,AM OSC (TOKO) <LH<S>,519LH1J<S>>
L7	87-A50-579-010		COIL,AM IFT(ACD)

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
L8	87-A50-335-010		COIL,FM IFT (TOKO)
L9	87-A50-577-010		COIL,FM DET(ACD)
L10	87-005-849-080		COIL,10UH(CECS)
L16	87-A50-569-010		COIL,LW OSC-ACD(COI)<K<S>,EZ<S>>
L17	87-A50-337-010		COIL,AM OSC (TOKO)<K<S>,EZ<S>>
PVC1	87-A91-635-010		TUN-CAP,20P-140P E-ACD (MITSUMI<K<S>,EZ<S>>
PVC1	87-A91-167-010		TUN-CAP,20P-160P FA-22125 N000 <LH<S>,519LH1J<S>>
SW1	87-A91-548-010		SW,SL-2-3 SK23E01G06 <LH<S>,519LH1J<S>>
SW1	87-A91-549-010		SW,SL-6-4 SK64D01G06<K<S>,EZ<S>>
TC5	87-011-253-080		TRIMER,30P LAR<K<S>,EZ<S>>
TC6	87-011-253-080		TRIMMER,CER 30P 4.0X4.5 ECR <K<S>,EZ<S>>

H.P. C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
CN101	8A-CD9-628-010		CONN ASSY,3P MA-HP
CN102	87-A60-685-010		CONN,4P H WHT EH
HP1	87-A60-569-010		JACK,HTJ-035-18

BATT1 C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C901	87-010-192-080		C-CAP,S 0.022-50 F
C902	87-010-192-080		C-CAP,S 0.022-50 F
C903	87-010-192-080		C-CAP,S 0.022-50 F
C904	87-010-192-080		C-CAP,S 0.022-50 F
CNA901	8A-CD9-627-010		CONN ASSY,3P PWR
⚠PR901	87-A90-092-080		PROTECTOR,2.5A 491
SP901	87-CD6-213-010		SPR-C,BATT (-)
SP902	87-CD6-213-010		SPR-C,BATT (-)

BATT2 C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
SP903	87-CD6-213-010		SPR-C,BATT (-)
SP904	87-CD6-213-010		SPR-C,BATT (-)

MOTOR C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
M2	9X-262-576-910		MOTOR GEAR ASSY
PIN3	91-564-722-110		CONNECTOR 6P
SW1	91-572-085-120		LEAF SW

KEY C.B

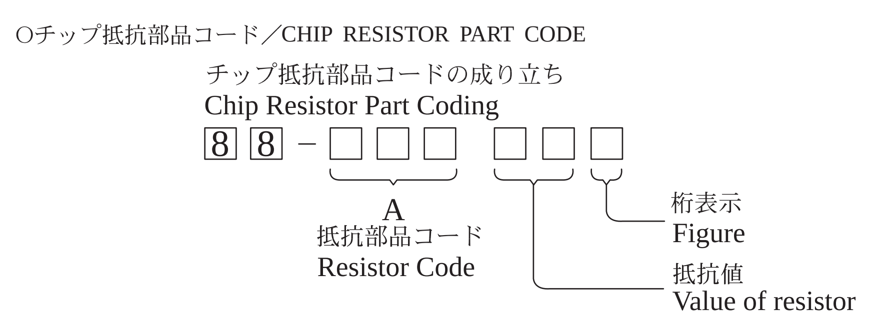
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
S606	87-A90-696-080		SW,TACT TS2103-03-430
S607	87-A90-696-080		SW,TACT TS2103-03-430
S608	87-A90-696-080		SW,TACT TS2103-03-430

VOL SEL C.B<LH<S>,519LH1J<S>>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
SW901	87-A91-369-010		SW,AC SL 2 2 2 SDKGA41700 <LH<S>,519LH1J<S>>

- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

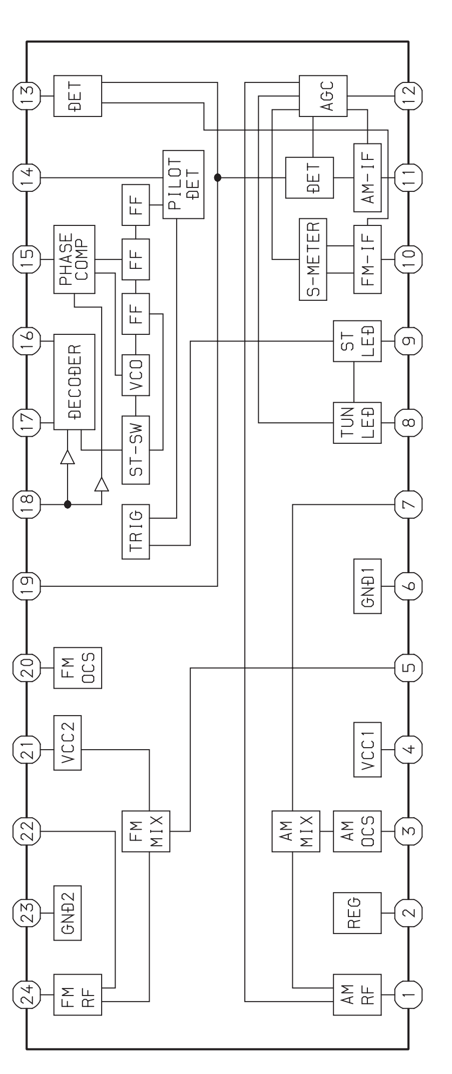


チップ抵抗
Chip resistor

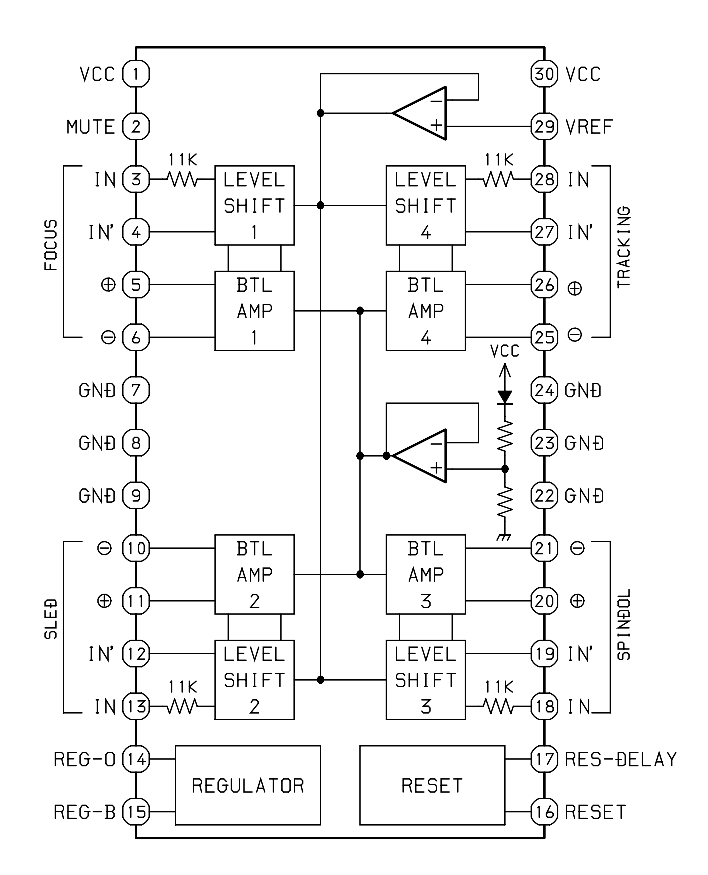
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

IC BLOCK DIAGRAM

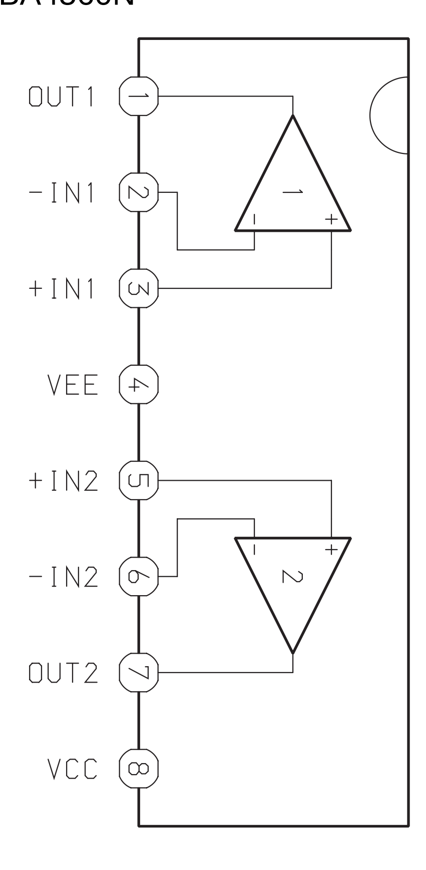
IC, LA1828



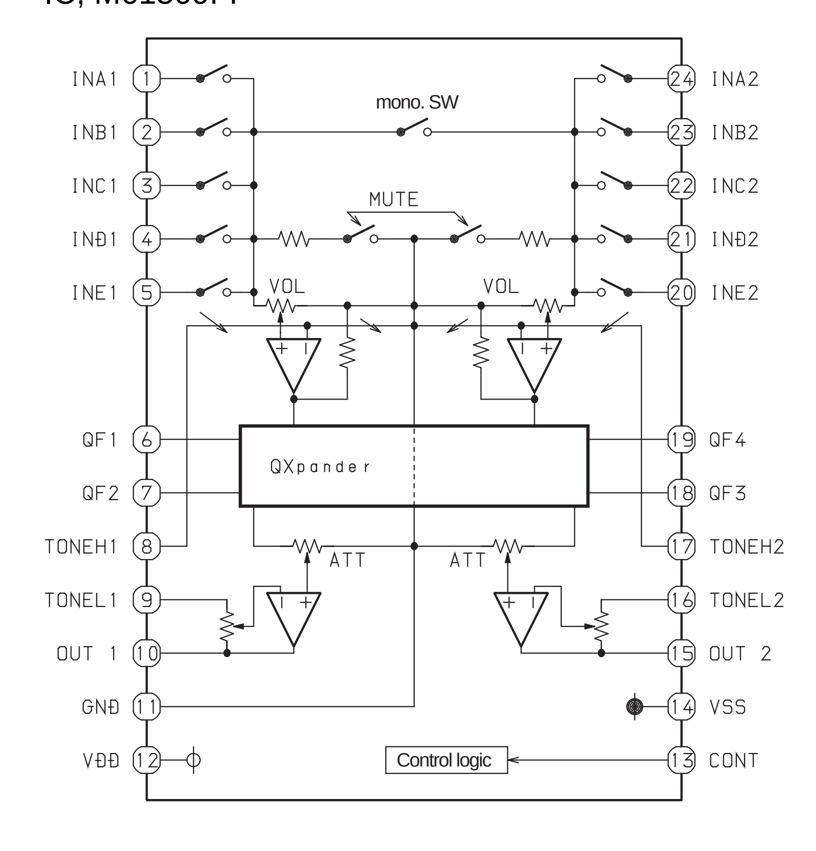
IC, LA6541D

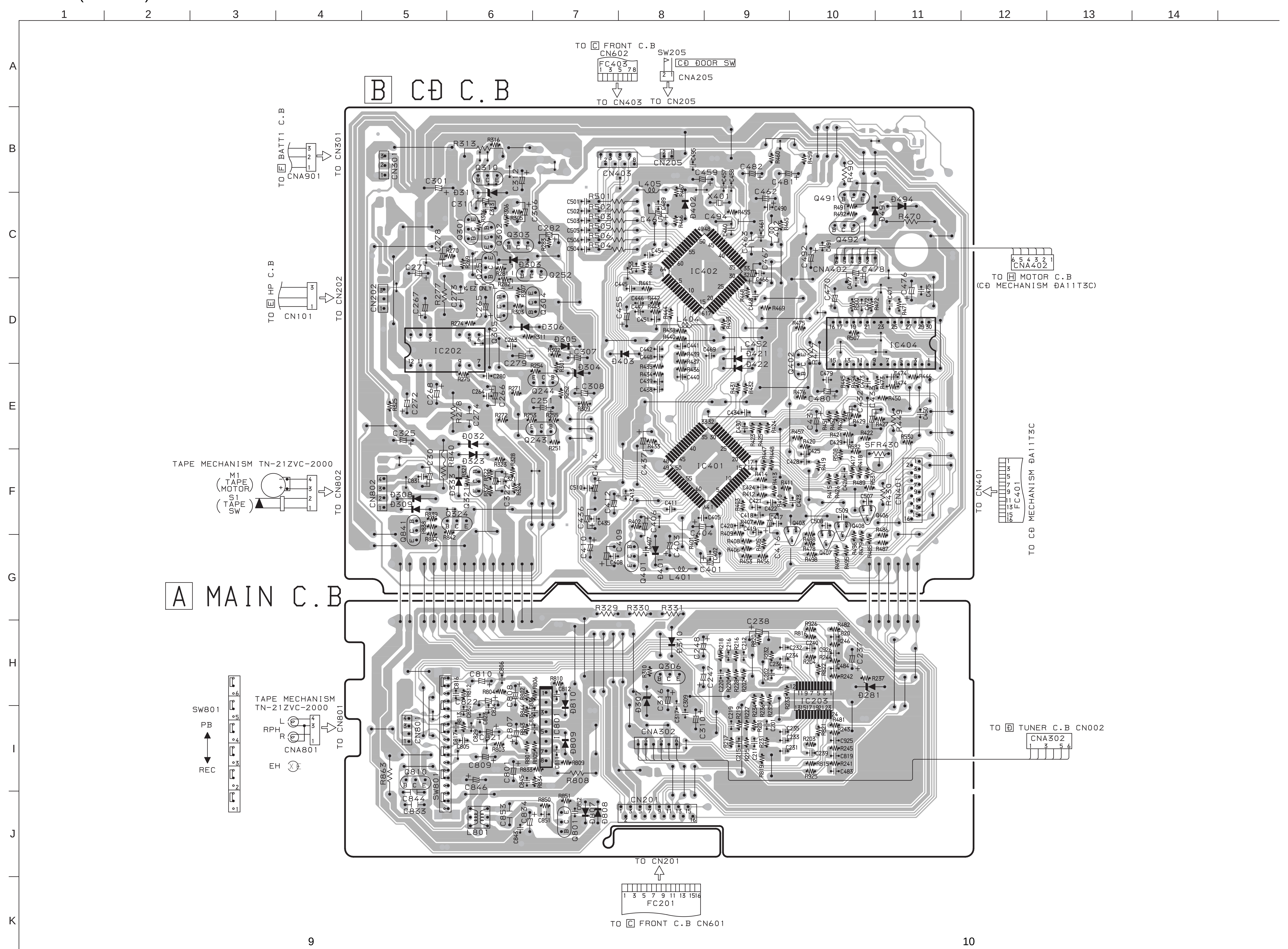


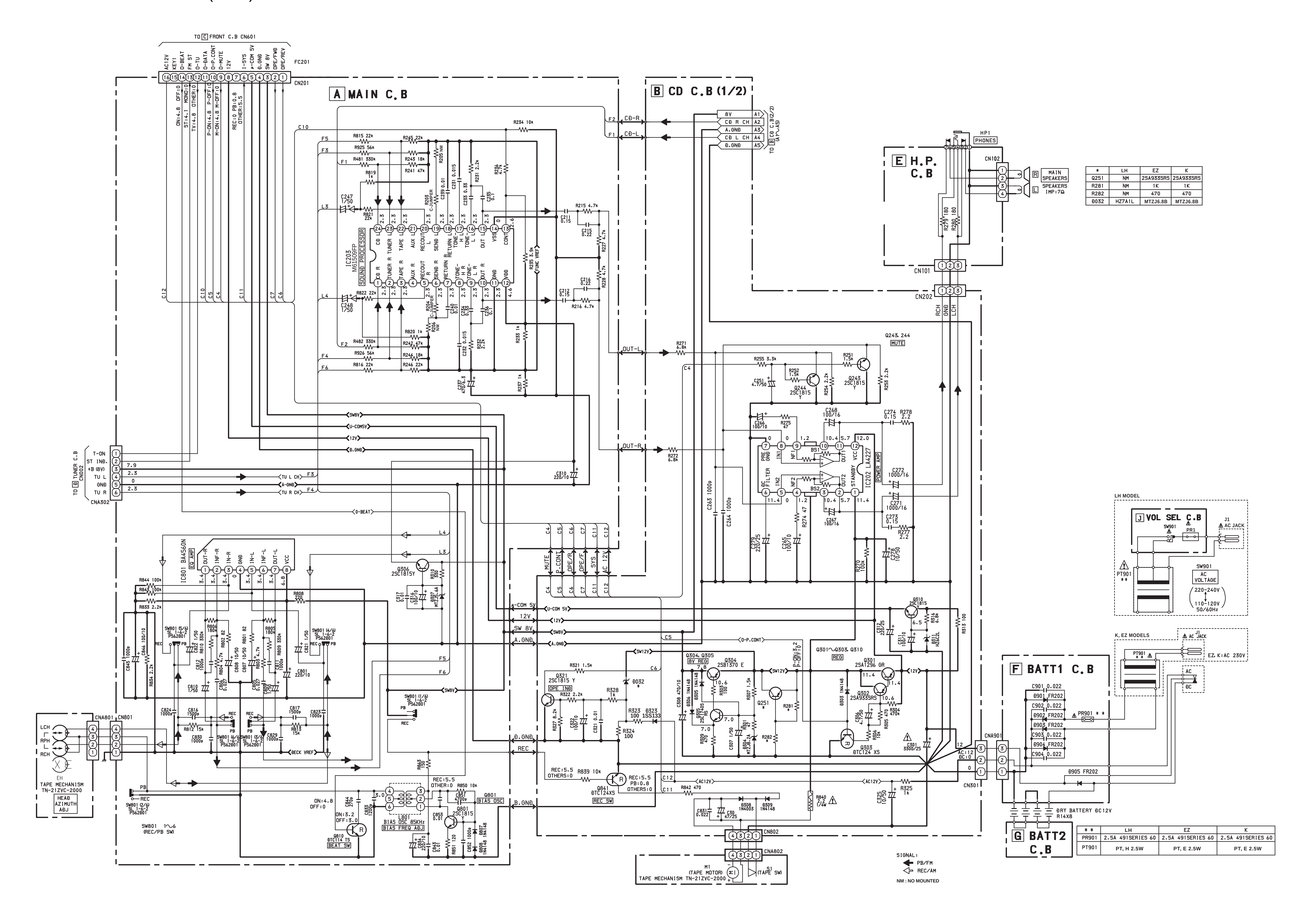
IC, BA4560N



IC, M61509FP

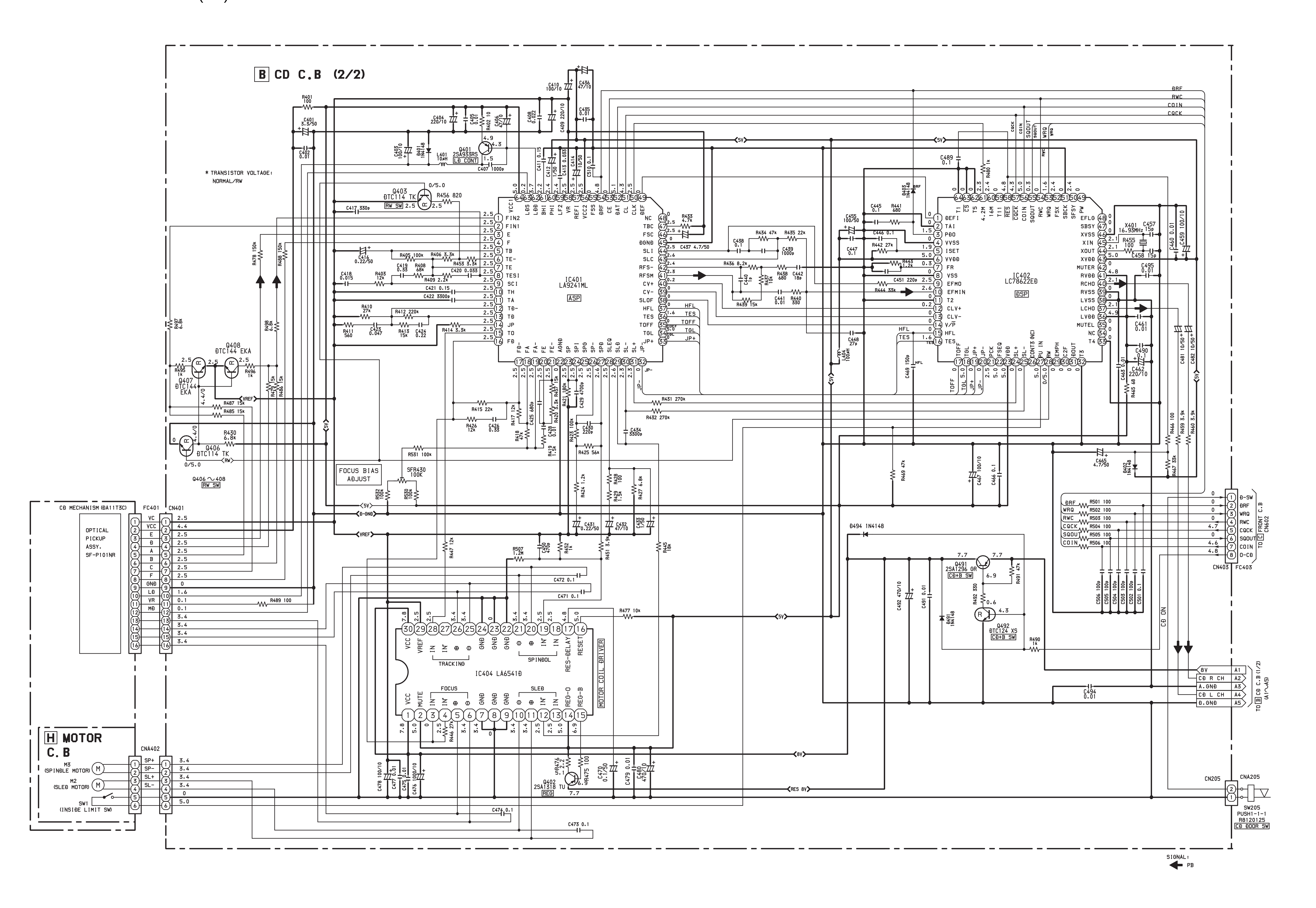



B CD C.B
A MAIN C.B
TO C FRONT C.B CN602
FC403
TO CN403
SW205
CD DOOR SW
CNA205
TO CN205
TO F BATT1 C.B
CNA901
TO CN301
TO E HP C.B
CN101
TO CN202
TAPE MECHANISM TN-21ZVC-2000
M1 (TAPE MOTOR)
S1 (TAPE SW)
TO CN802
TO H MOTOR C.B
(CD MECHANISM DA11T3C)
CNA402
TO CN401
FC401
TO CD MECHANISM DA11T3C
SW801
PB
REC
TAPE MECHANISM TN-21ZVC-2000
RPH
CNA801
TO CN801
EH
TO D TUNER C.B CN002
CNA302
TO CN201
FC201
TO C FRONT C.B CN601
IC402
IC401
IC404
IC202
IC203



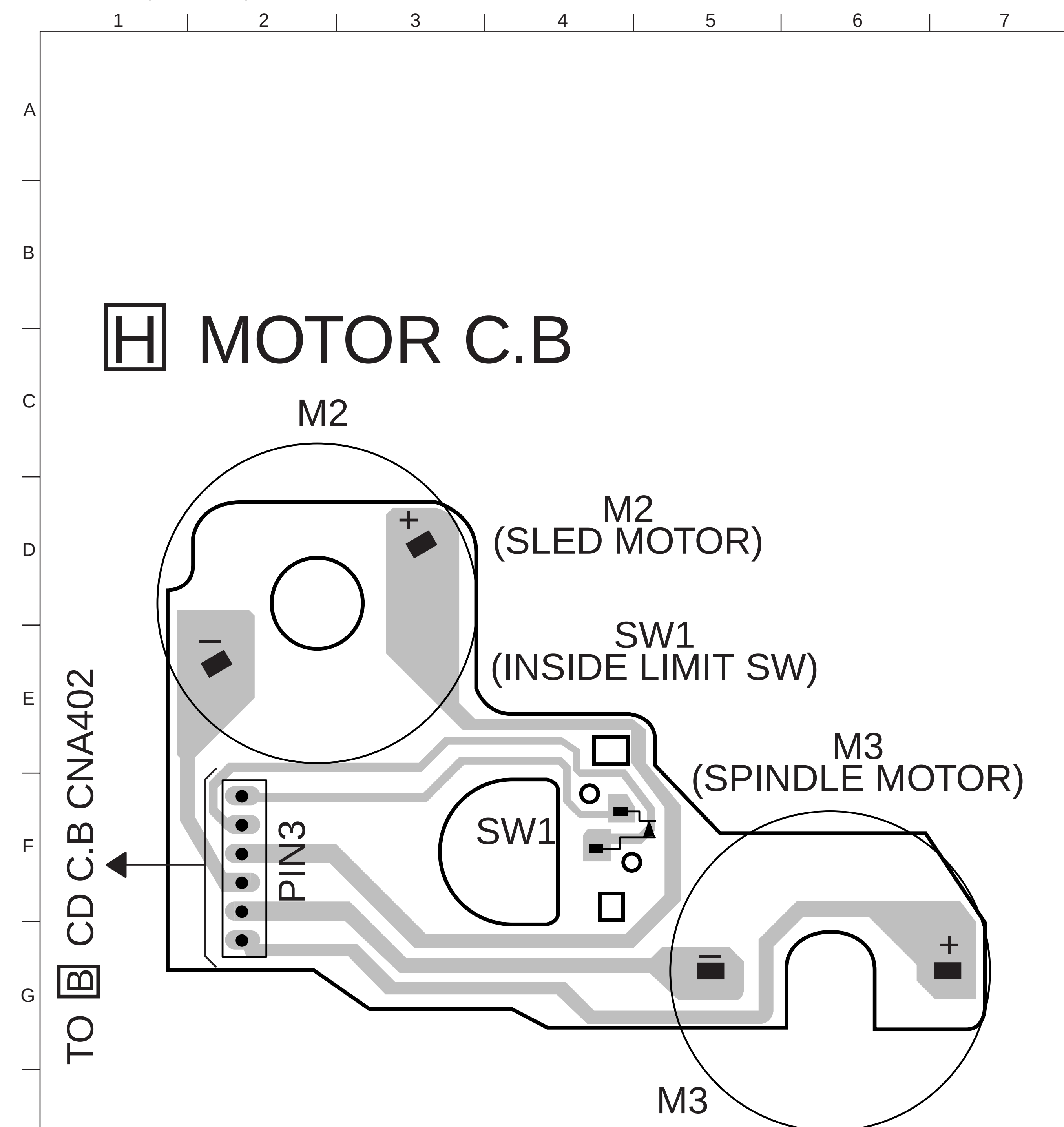
*	LH	EZ	K
Q251	NM	2SA933SRS	2SA933SRS
R281	NM	1K	1K
R282	NM	470	470
D032	HZ7A1L	MTZJ6.8B	MTZJ6.8B

* *	LH	EZ	K
PR901	2.5A 491SERIES 60	2.5A 491SERIES 60	2.5A 491SERIES 60
PT901	PT, H 2.5W	PT, E 2.5W	PT, E 2.5W

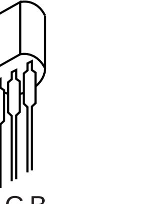


B CD C.B (2/2)
IC401 LA9241ML
ASP
IC402 LC78622ED
DSP
IC404 LA6541D
MOTOR COIL DRIVER
CD MECHANISM (DA11T3C)
OPTICAL PICKUP ASSY. SF-P101NR
H MOTOR C.B
M3 (SPINDLE MOTOR)
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
FOCUS BIAS ADJUST
* TRANSISTOR VOLTAGE: NORMAL/RW
TO C FRONT C.B CN602
TO B CD C.B (1/2) (A1~A5)
SW205 PUSH1-1-1 RB120125 CD DOOR SW
SIGNAL: PB

WIRING-2 (MOTOR)



TRANSISTOR ILLUSTRATION

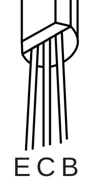


E C B

2SA1296
2SC1815

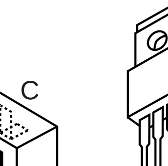
E C B

2SA933
2SC1740
DTC114TS
DTC124XS



E C B

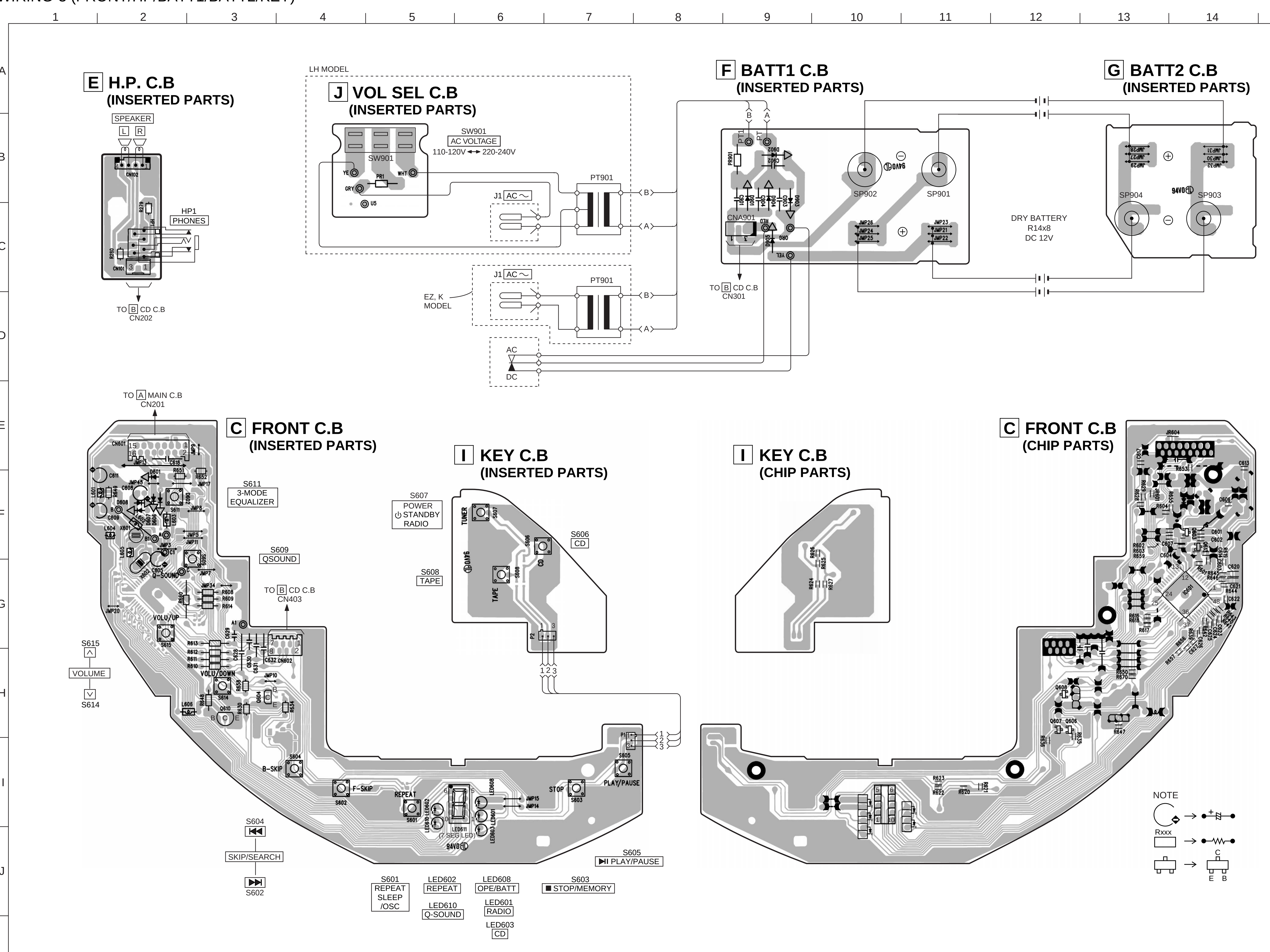
2SA1318

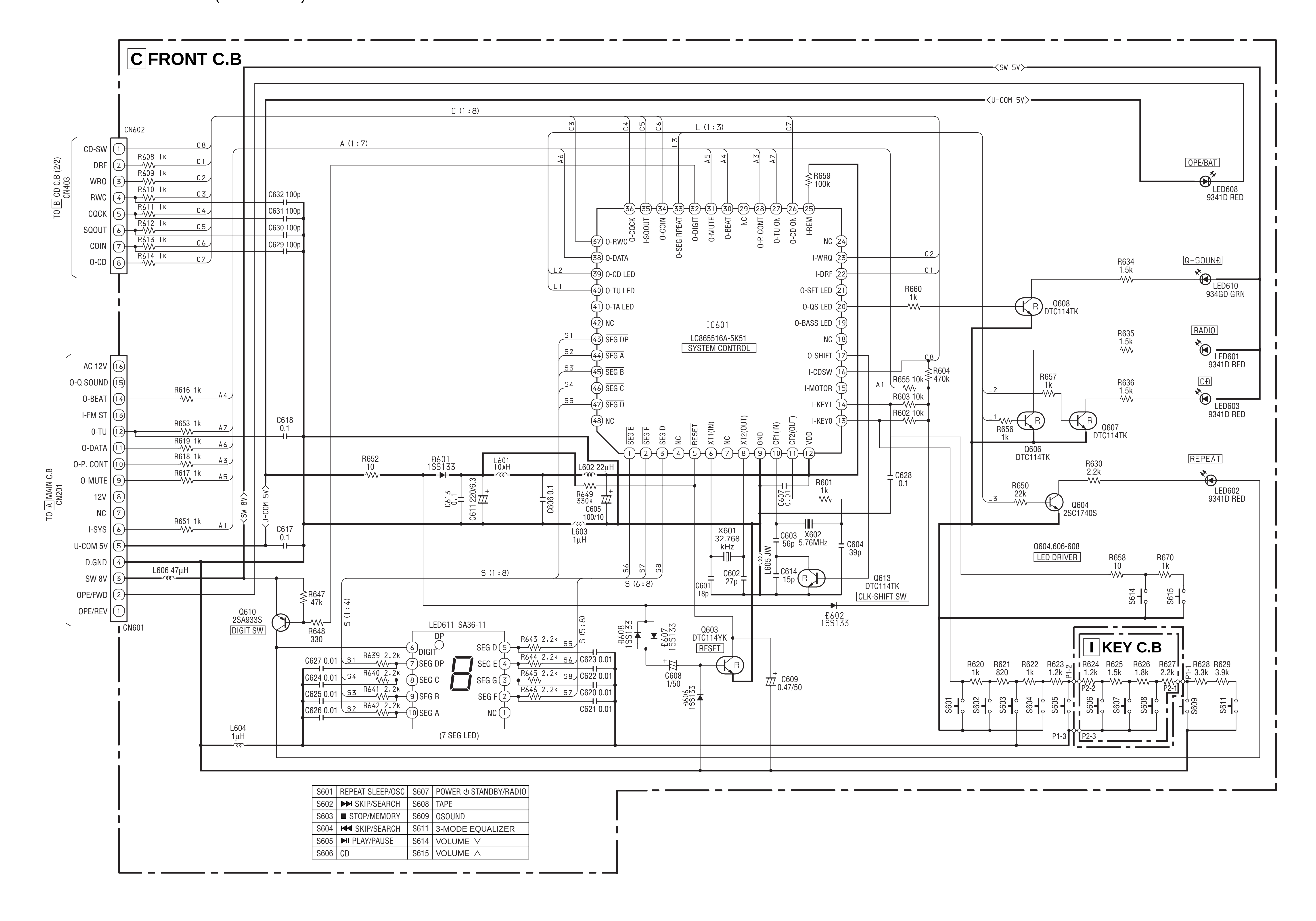


2SC2714
DTC114TK
DTC114YK
DTC144TK

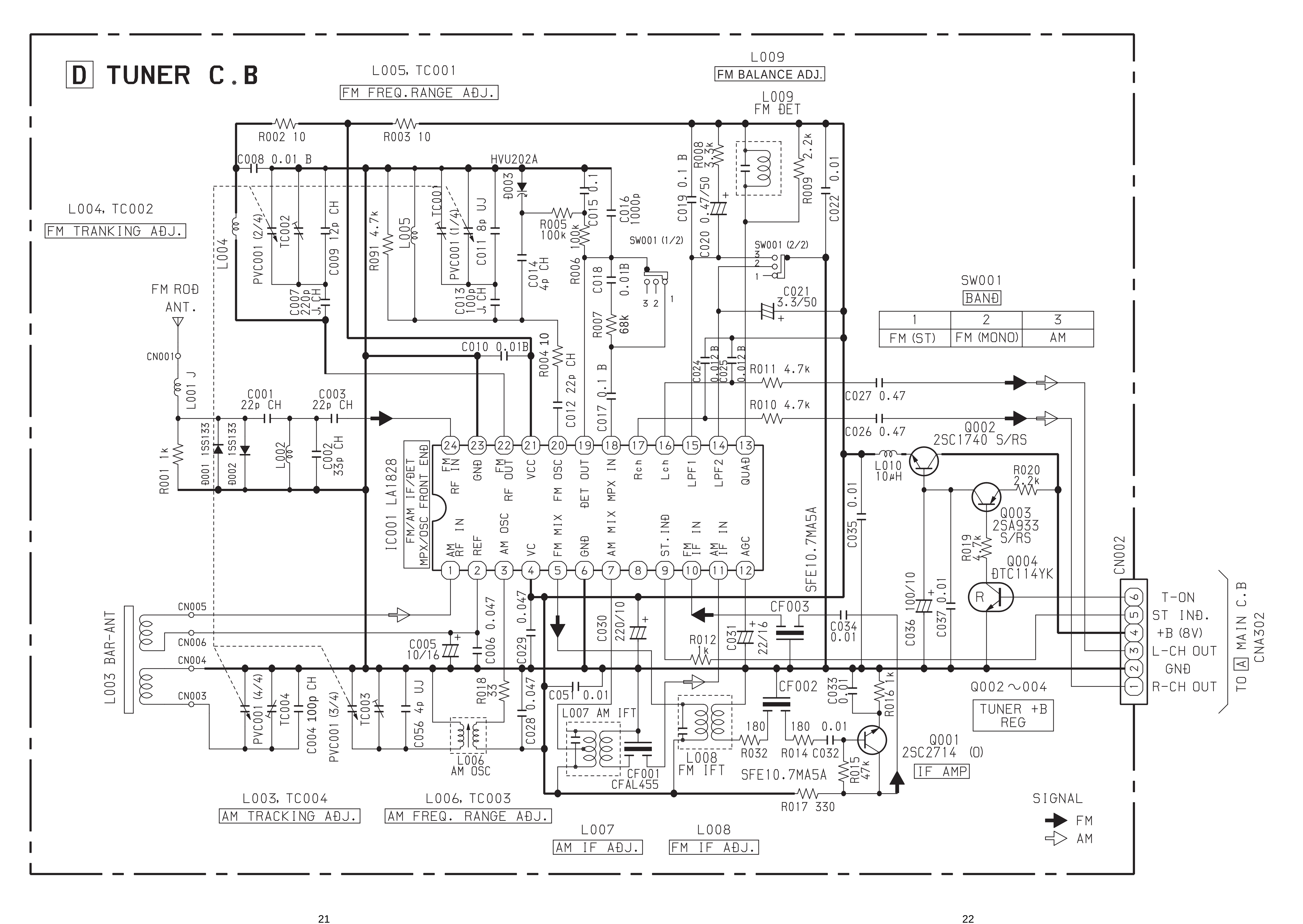
B C E

2SB1370


E H.P. C.B
(INSERTED PARTS)
SPEAKER
L R
HP1
PHONES
TO B CD C.B
CN202
J VOL SEL C.B
(INSERTED PARTS)
LH MODEL
SW901
AC VOLTAGE
110-120V ↔ 220-240V
PT901
EZ, K
MODEL
AC
DC
F BATT1 C.B
(INSERTED PARTS)
CNA901
SP902
SP901
TO B CD C.B
CN301
G BATT2 C.B
(INSERTED PARTS)
SP904
SP903
DRY BATTERY
R14x8
DC 12V
TO A MAIN C.B
CN201
C FRONT C.B
(INSERTED PARTS)
S611
3-MODE
EQUALIZER
S609
QSOUND
TO B CD C.B
CN403
S615
VOLUME
S614
S604
SKIP/SEARCH
S602
I KEY C.B
(INSERTED PARTS)
S607
POWER
STANDBY
RADIO
S606
CD
S608
TAPE
S605
PLAY/PAUSE
S601
REPEAT
SLEEP
/OSC
LED602
REPEAT
LED610
Q-SOUND
LED608
OPE/BATT
LED601
RADIO
LED603
CD
S603
STOP/MEMORY
I KEY C.B
(CHIP PARTS)
C FRONT C.B
(CHIP PARTS)
NOTE
Rxxx
C
E B



S601	REPEAT SLEEP/OSC	S607	POWER ⏻ STANDBY/RADIO
S602	▶▶I SKIP/SEARCH	S608	TAPE
S603	■ STOP/MEMORY	S609	QSOUND
S604	I◀◀ SKIP/SEARCH	S611	3-MODE EQUALIZER
S605	▶II PLAY/PAUSE	S614	VOLUME ∨
S606	CD	S615	VOLUME ∧

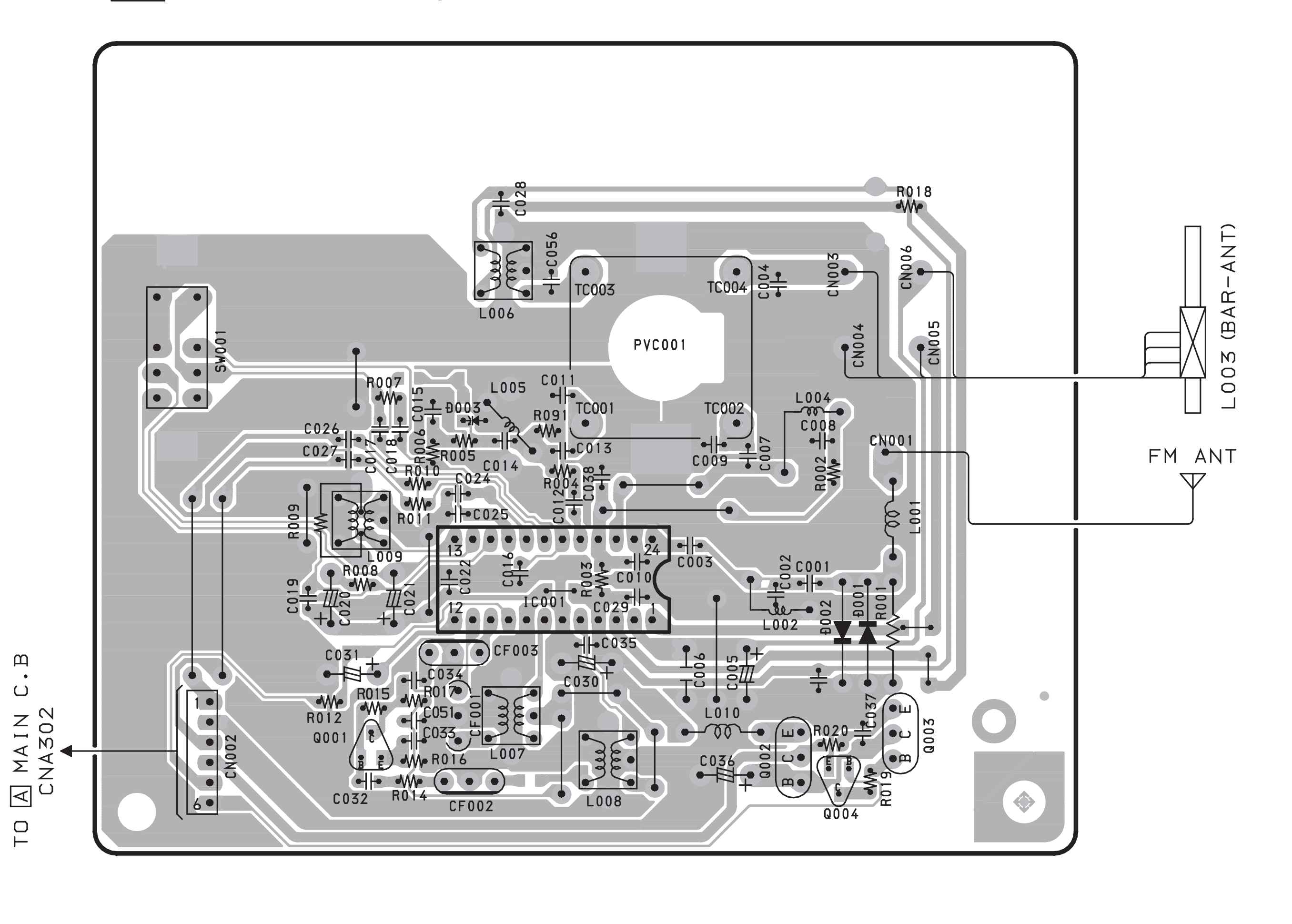


D TUNER C.B
L005, TC001
FM FREQ.RANGE ADJ.
L009
FM BALANCE ADJ.
L009
FM DET
L004, TC002
FM TRANKING ADJ.
FM ROD ANT.
IC001 LA1828
FM/AM IF/DET
MPX/OSC FRONT END
SW001
BAND
1 2 3
FM (ST) FM (MONO) AM
Q002
2SC1740 S/RS
Q003
2SA933 S/RS
Q004
DTC114YK
CN002
T-ON
ST IND.
+B (8V)
L-CH OUT
GND
R-CH OUT
TO A MAIN C.B CNA302
Q002～004
TUNER +B REG
Q001
2SC2714 (O)
IF AMP
L003 BAR-ANT
L003, TC004
AM TRACKING ADJ.
L006, TC003
AM FREQ. RANGE ADJ.
L007
AM IF ADJ.
L008
FM IF ADJ.
L007 AM IFT
L008 FM IFT
L006 AM OSC
CF001 CFAL455
CF002 SFE10.7MA5A
CF003 SFE10.7MA5A
SIGNAL
FM
AM

1 2 3 4 5 6 7

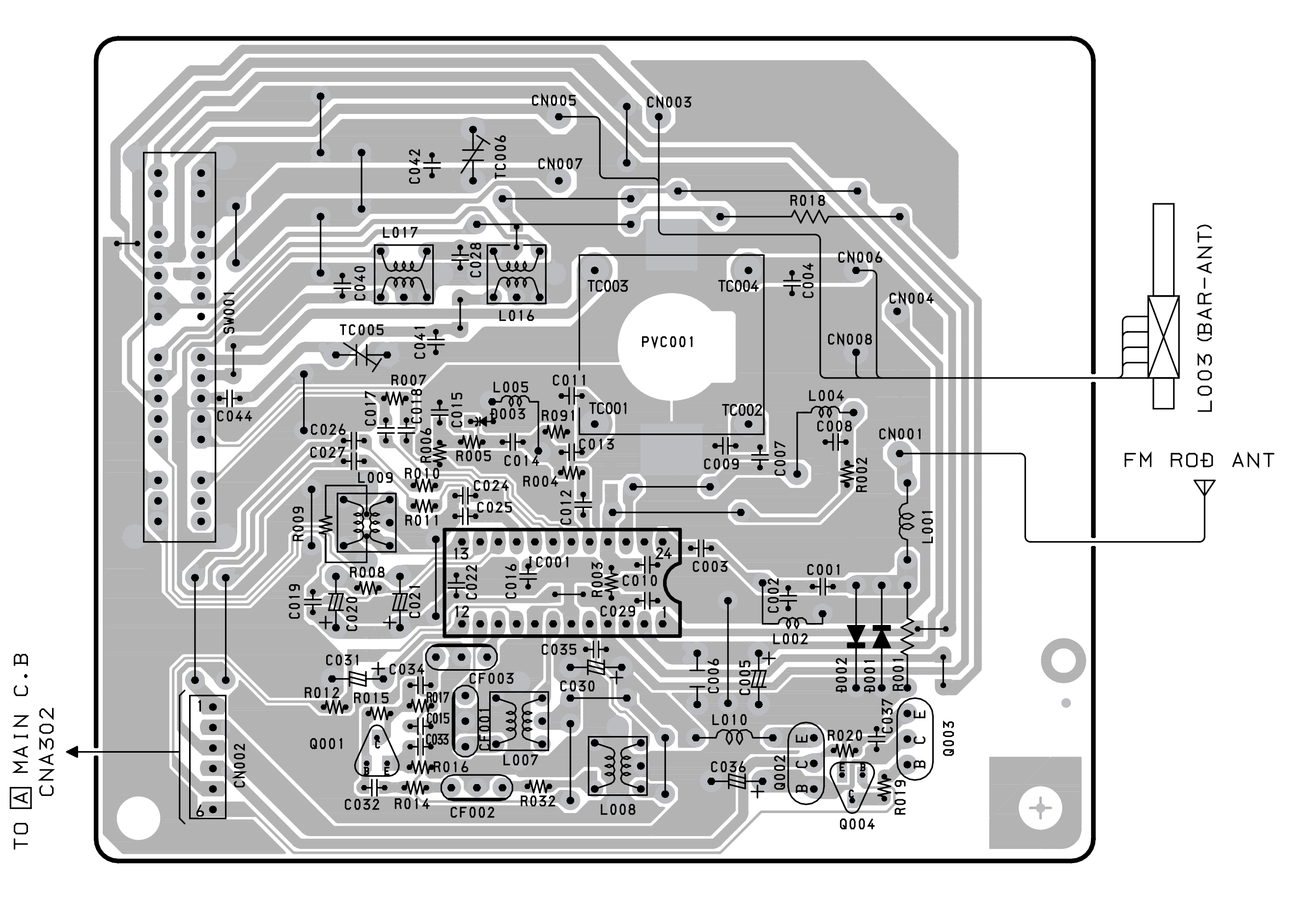
A B C D E F G H I J K

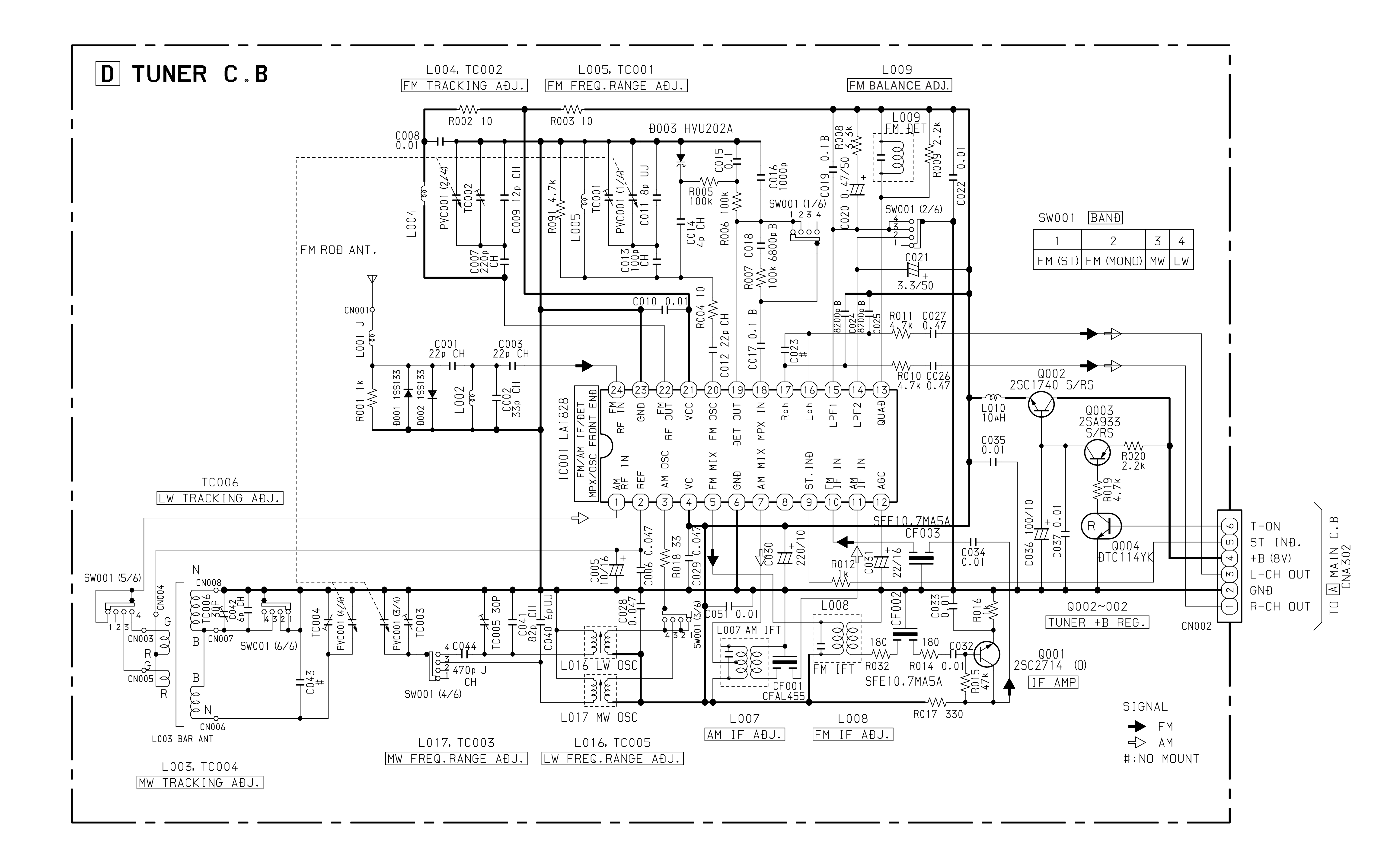
Ð TUNER C.B



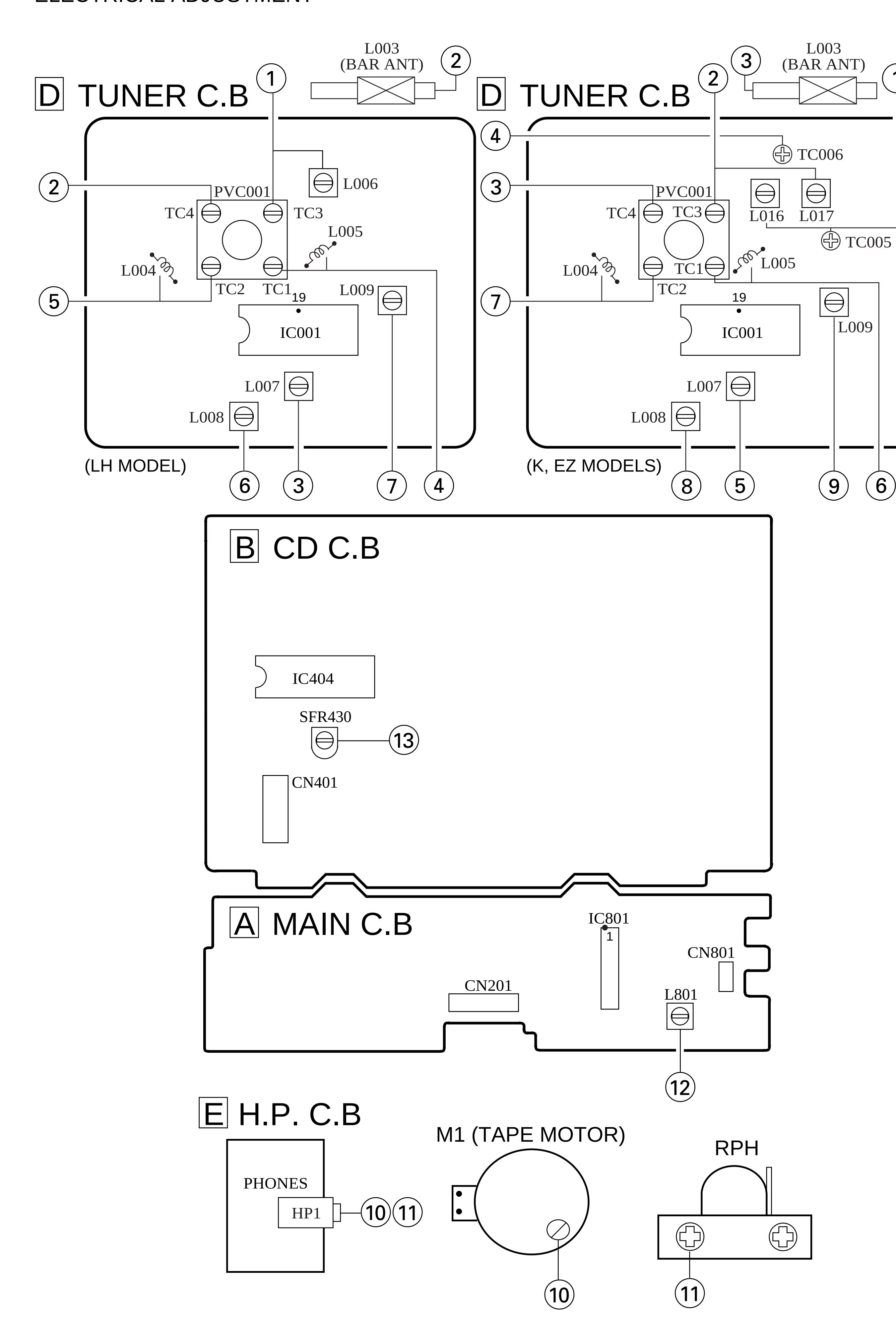
1 2 3 4 5 6 7

A B C D E F G H I J K





1	2	3	4
FM (ST)	FM (MONO)	MW	LW



< TUNER SECTION >

(LH MODEL)

1. AM Freq. Range Adjustment
   L006 .... 517kHz
   TC003 .... 1750kHz

2. AM Tracking Adjustment
   L003 .... 600kHz
   TC004 .... 1400kHz

3. AM IF Adjustment
   Settings: • Test point: IC001 (LA1828) 19PIN
   • Adjustment location: L007
   Method: Adjust L007 so that the output level at 1400kHz becomes maximum.

4. FM Freq. Range Adjustment
   L005 .... 87.0MHz
   TC001 .... 109.0MHz

5. FM Tracking Adjustment
   L004 .... 88.0MHz
   TC002 .... 108.0MHz

6. FM IF Adjustment
   Settings: • Test point: IC001 (LA1828) 19PIN
   • Adjustment location: L008
   Method: Adjust L008 so that the output level at 98.0MHz becomes balanced.

7. FM Balance Adjustment
   Settings: • Test point: IC001 (LA1828) 19PIN
   • Adjustment location: L009
   Method: Adjust L009 so that the output level at 98.0MHz becomes balanced.

(K, EZ MODELS)

1. LW Freq. Range Adjustment
   L016 .... 145kHz
   TC005 .... 295kHz

2. MW Freq. Range Adjustment
   L017 .... 515kHz
   TC003 .... 1635kHz

3. MW Tracking Adjustment
   L003 .... 600kHz
   TC004 .... 1400kHz

4. LW Tracking Adjustment
   TC006 .... 288kHz

5. AM IF Adjustment
   Settings: • Test point: IC001 (LA1828) 19PIN
   • Adjustment location: L007
   Method: Adjust L007 so that the output level at 1400kHz becomes maximum.

6. FM Freq. Range Adjustment
   L005 .... 87.4MHz
   TC001 .... 108.3MHz

7. FM Tracking Adjustment
   L004 .... 88.0MHz
   TC002 .... 108.0MHz

8. FM IF Adjustment
   Settings: • Test point: IC001 (LA1828) 19PIN
   • Adjustment location: L008
   Method: Adjust L008 so that the output level at 98.0MHz becomes balanced.

9. FM Balance Adjustment
   Settings: • Test point: IC001 (LA1828) 19PIN
   • Adjustment location: L009
   Method: Adjust L009 so that the output level at 98.0MHz becomes balanced.

< DECK SECTION >

10. Tape Speed Adjustment
    Settings : • Test tape : TTA-100
    • Test point : J251 (PHONES jack)
    • Adjustment location : SFR of deck motor
    Method : Play back the test tape and adjust SFR so that the frequency counter reads 3000Hz±30Hz.

11. Head Azimuth Adjustment
    Settings : • Test tape : TTA-320
    • Test point : J251 (PHONES jack)
    • Adjustment location : Azimuth adjustment screw
    Method : Play back the 8kHz signal of the test tape and adjust screw so that the output becomes maximum.

12. Bias frequncy Adjustment
    L801........ 85kHz±0.5kHz

< CD SECTION >

13. FE Balance Adjustment
    Settings : • Test point : IC401 PIN58 (VR), IC401 PIN 20 (FE)
    • Adjustment location : SFR430
    Method : Playback the disc and adjust SFR430 so that the test point voltage becomes 0V.

PRACTICAL SERVICE FIGURE

< TUNER SECTION >

< FM SECTION >

Sensitivity:	Less than 19dB (88.0MHz)
(THD 3%)	Less than 18dB (98.0MHz)
	Less than 18dB (108.0MHz)
Signal to Noise Ratio:	LH MODEL:
(Input 60dB)	More than 57dB (at 98.0MHz)
	K, EZ MODELS:
	More than 50dB (at 98.0MHz)
Distortion:	Less than 1.5% (at 98.0MHz)
(Input 60dB)	
Intermediate frequency:	10.7MHz ±0.1MHz
Stereo separation:	More than 22dB (at 98MHz)

< AM/MW SECTION >

Sensitivity:	Less than 45dB (at 600kHz)
(S/N 10dB)	Less than 45dB (at 1000kHz)
	Less than 45dB (at 1400kHz)
Distortion:	Less than 3.0%
(Input 74dB)	
Intermediate frequency:	455kHz±3.5kHz

< LW SECTION > (K, EZ MODELS)

Sensitivity:	Less than 57dB
(S/N 10dB)	(at 153/198/288kHz)
Signal to Noise Ratio:	More than 24dB
(Input 74dB)	(at 198kHz)
Distortion:	
(Input: 74/120dB)	Less than 3% (at 198kHz)

< CASSETTE SECTION >

Tape speed:	3000Hz+3%-2%
Wow & flutter:	Less than 0.35% (JIS RMS)
S/N ratio:	More than 35dB
Distortion:	Less than 3.0% (PB)
Noise (PB):	Less than 1mV
	(DC, MIN)
	Less than 1.2mV (AC, MIN)
Erasing Ratio (W/O FILTER):	More than 45dB

IC DESCRIPTION

IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE-	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES “Track Error Sense” comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD-	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD-	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA-	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE-	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	AGND	—	Analog signal GND.
23	SP	O	Signal ended output of the CV+and CV- pin input signal.
24	SPI	I	Spndle amp input.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP-	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL-, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP-, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	“High Frequency Level” is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSM	O	RF output pin.
42	RFS-	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	“Slice Level Control” is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	“Tracking Balance Control” EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	“Detect RF” RF level detector output.
55	FSS	I	“Focus Search Select” focus search mode (± search/+ search) select pin.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REFI	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

IC, LC78622ED

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISET	I		Pin to which external resistor adjusting the PD0 output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	T2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLK-	O	Disc motor control output. Three level output is possible using command.	
14	V/$\overline{P}$	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP-	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and thesync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24	SL+	O	Moves the sled to outer circumference.	
25	SL-	O	Moves the sled to inner circumference.	
26	CONT3 (NC)	—	Not connected.	
27	PUIN	I	CD pickup inner switch detection.	
28	$\overline{RW}$	O	Read, wright signal.	
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	T3, T4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{CQCK}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	RES	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	T11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	T5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{CS}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	T1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

IC, LC865516A-5K51

Pin No.	Pin Name	I/O	Description
1	$\overline{\text{SEG E}}$	O	SEG E control.
2	$\overline{\text{SEG F}}$	O	SEG F control.
3	$\overline{\text{SEG G}}$	O	SEG G control.
4	NC	—	Not connected.
5	$\overline{\text{RESET}}$	I	Micro processor reset input
6	XT1 (IN)	I	Connected to an external 32.768 kHz crystal oscillator.
7	NC	—	Not connected.
8	XT2 (OUT)	O	Connected to an external 32.768 kHz crystal oscillator.
9	GND	—	GND.
10	CF1 (IN)	I	Connected to an external 5.76 MHz ceramic filter.
11	CF2 (OUT)	O	Connected to an external 5.76 MHz ceramic filter.
12	VDD	—	Microprocessor power supply (+5V).
13	I-KEY0	I	Key AD input. (AD)
14	I-KEY1	I	Key AD input. (AD)
15	I-MOTOR	I	Deck status input. (AD)
16	I-CD SW	I	CD door switch status input.
17	O-SHIFT	O	Main clock shift output.
18	NC	—	Not connected.
19	O-BASS LED	O	BASS LED ON/OFF control output. (Not connected)
20	O-QS LED	O	Q sound LED ON/OFF control output. (Not connected)
21	O-SFT LED	—	Not connected.
22	I-DRF	I	CD RF level detection input.
23	I-WRQ	I	CD subcode Q standby input.
24	NC	—	Not connected.
25	I-REM	—	Remote control input.
26	O-CD ON	O	CD power control output.
27	O-TU ON	O	TU power control output.
28	O-P.CONT	O	The main power supply control output.
29	NC	—	Not connected.
30	O-BEAT	O	Beat control.
31	O-MUTE	O	Main mute output.
32	O-DIGIT	O	7-segment LED power supply control output.
33	O-SEG RPEAT	O	REPEAT LED ON/OFF control output.
34	O-COIN	O	CD command output.
35	I-SQOUT	I	CD subcode Q input.
36	O-CQCK	O	CD command/CLK for subcode.
37	O-RWC	O	CD read/write control output.
38	O-DATA	O	Data output to M62349FP.
39	O-CD LED	O	LED ON/OFF control output for the CD function.
40	O-TU LED	O	LED ON/OFF control output for the TU function.
41	O-TA LED	O	LED ON/OFF control output for the TA function. (Not connected)

Pin No.	Pin Name	I/O	Description
42	NC	—	Not connected.
43	$\overline{\text{SEG DP}}$	O	SEG DP control.
44	$\overline{\text{SEG A}}$	O	SEG A control.
45	$\overline{\text{SEG B}}$	O	SEG B control.
46	$\overline{\text{SEG C}}$	O	SEG C control.
47	$\overline{\text{SEG D}}$	O	SEG D control.
48	NC	—	Not connected.

MECHANICAL PARTS LIST 1/1

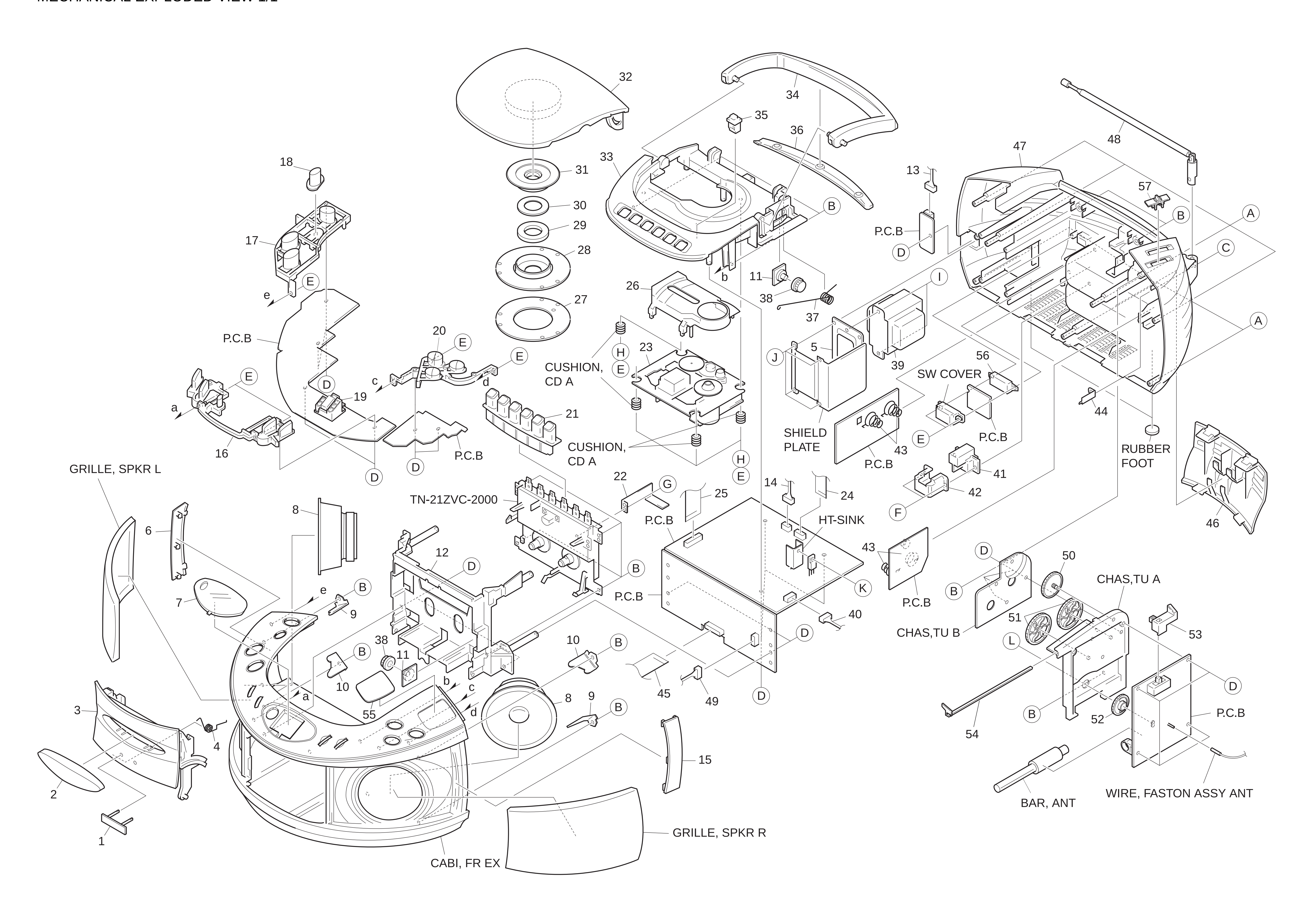
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	1	8Z-CL7-107-010		BADGE,AIWA SILVER
	2	8A-CD8-007-010		WINDOW,CASS
	3	8A-CD8-006-010		BOX,CASS
	4	8A-CD8-207-010		SPR-T,CASS
	5	8A-CD8-209-010		HLDR,TRANS
	6	8A-CD8-018-010		PANEL,FR L
	7	8A-CD8-043-010		WINDOW,DISPLAY EX
	8	88-CD8-622-010		SPKR,F 77 7OHM 3W
	9	8A-CD8-210-010		HLDR,SPKR A
	10	8A-CD8-211-010		HLDR,SPKR B
	11	84-CD5-215-010		GEAR
	12	8A-CD8-021-010		CHAS,CASS
	13	8A-CD9-633-010		CONN ASSY,4P SP
	14	8A-CD9-626-010		CONN ASSY,2P DOOR
	15	8A-CD8-022-010		PANEL,FR R
	16	8A-CD8-016-010		KEY,CONTROL CD
	17	8A-CD8-014-010		KEY,VOL
	18	8A-CD8-017-010		KEY,QSOUND
	19	8A-CD8-206-010		HLDR,LED
	20	8A-CD8-015-010		KEY,FUNC
	21	8A-CD8-011-010		KEY,CASS SET
	22	8A-CD8-213-010		SPR-P,REC
	23	M8-ZZK-E90-070		DA11T3C
	24	8A-CD9-622-010		FF-CABLE, 8P CD-FR
	25	8A-CD9-621-010		FF-CABLE, 16P CD-RF
	26	8Z-CDB-169-010		PANEL,CD SANYO
	27	88-CD9-211-210		RING,CHUCK
	28	8Z-CDB-170-010		BASE,CHUCK
	29	87-036-368-010		MAGNET
	30	84-CT5-209-010		PLATE,MAGNET
	31	8Z-CH4-225-010		HLDR, CHUCK A(S)
	32	8A-CD8-027-010		BOX,CD EX
	33	8A-CD8-028-010		CHAS,CD EX
	34	8A-CD8-008-010		HANDL,FR
	35	87-036-389-010		SW,PUSH LOCK
	36	8A-CD8-009-010		HANDL,REAR
	37	8A-CD8-208-010		SPR-T,CD
	38	84-CD5-216-010		BRACKET
⚠	39	8A-CD8-603-010		PT,E 2.5W<K<S>,EZ<S>>
⚠	39	8A-CD8-604-010		PT,H 2.5W<LH<S>,519LH1J<S>>

	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	40	8A-CD9-630-010		CONN ASSY,4P RPH
⚠	41	87-A60-178-010		JACK,AC E W/SW
	42	87-A90-086-010		COVER,AC-SOCKET
	43	88-CD8-209-010		SPR-C,BATT
	44	8A-CD8-212-010		HLDR,ANT
	45	8A-CD9-620-010		FF-CABLE, 16P FR-MAIN
	46	8A-CD8-003-010		LID,BATT
	47	8A-CD8-026-010		CABI,REAR EZ<K<S>,EZ<S>>
	47	8A-CD8-024-010		CABI,REAR U<LH<S>,519LH1J<S>>
	48	8Z-CH4-640-010		ANT,ROD
	49	8A-CD9-631-010		CONN ASSY,4P TP-ME
	50	8A-CD8-012-010		KNOB,RTRY TU
	51	8A-CD8-201-010		GEAR,IDLER
	52	8A-CD8-203-010		DRUM,DIAL
	53	8A-CD8-202-010		LEVER,BAND
	54	8A-CD8-010-010		POINTER,TU
	55	8A-CD8-030-010		WINDOW,DIAL EZ<K<S>,EZ<S>>
	55	8A-CD8-029-010		WINDOW,DIAL U<LH<S>,519LH1J<S>>
⚠	56	87-A91-369-010		SW,AC SL 2 2 2 SDKGA41700 <LH<S>,519LH1J<S>>
	57	8A-CD8-013-010		KNOB,SL BAND
	A	87-B10-242-010		UT2+3-30 W/O CR
	B	87-741-095-410		UT2+3-8 W/O SLOT
	C	87-254-097-410		U+3-12 CR
	D	87-741-095-410		UT2+3-8 GLD
	E	87-342-074-010		UT2+2.6-8
	F	87-353-076-210		VT2+2.6-12
	G	87-571-032-410		VIT+2-3
	H	87-WA5-253-010		W,3.3-10-0.8
	I	87-751-094-410		VT2+3-6 W10SL0T
	J	87-661-097-410		TAPPING SCREW, VFT1+3-12
	K	87-067-566-010		TAPPING SCREW, VFTT+3-6
	L	87-501-073-410		VF+2.6-6

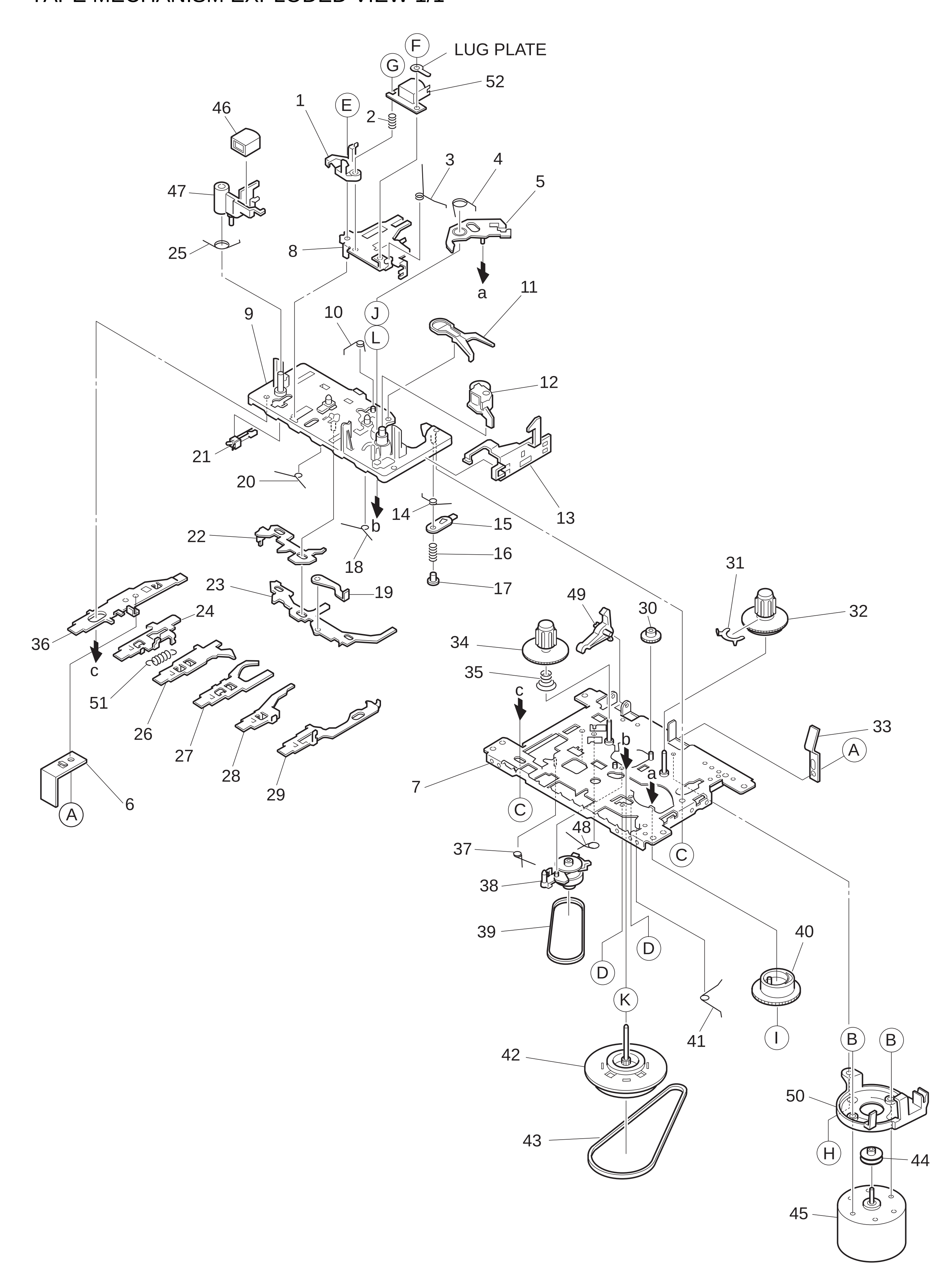
COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		



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SW COVER
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RUBBER
FOOT
SHIELD
PLATE
CUSHION,
CD A
P.C.B
GRILLE, SPKR L
GRILLE, SPKR R
CABI, FR EX
TN-21ZVC-2000
HT-SINK
CHAS,TU A
CHAS,TU B
BAR, ANT
WIRE, FASTON ASSY ANT
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TAPE MECHANISM EXPLODED VIEW 1/1

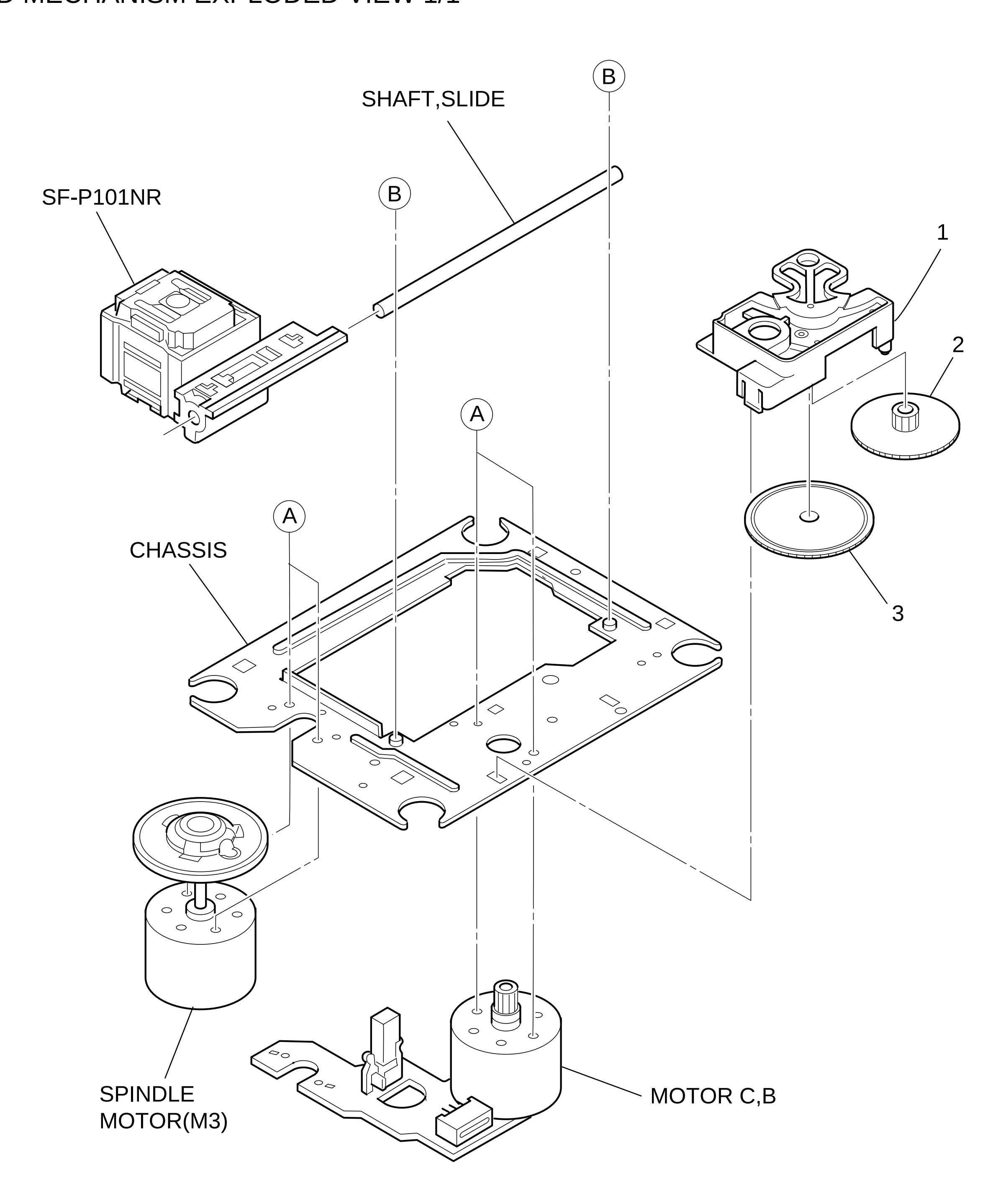


TAPE MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S1-921-030-4A0		HEAD BASE
2	S1-821-030-070		AZIMUTH SPRING
3	S1-921-030-090		PANEL P SPRING
4	S1-921-260-050		GEAR PLATE SPRING
5	S1-921-265-020		GEAR PLATE ASSY
6	S1-510-020-020		REC SPRING PLATE
7	S1-921-015-010		CHASSIS ASSY
8	S1-921-030-110		HEAD PANEL
9	S1-921-143-160		BASE ASSY
10	S1-921-141-8A0		M CONTROL SPRING
11	S1-921-260-4A0		SENSING LEVER
12	S1-921-043-100		PINCH ROLLER ARM ASSY
13	S1-921-130-010		EJECT SLIDE LEVER
14	S1-921-141-3A0		P CONTROL SPRING
15	S1-921-140-550		PAUSE LEVER(E)
16	S1-921-140-120		PAUSE LEVER SPRING
17	S1-921-140-110		PAUSE STOPPER
18	S1-921-140-150		BUTTON LEVER SPRING(B)
19	S1-821-011-590		E KICK LEVER
20	S1-921-141-070		BUTTON LEVER SPRING(A)
21	S6-401-011-490		LEAF SW MSW-1541T
22	S1-921-140-090		SWITCH ACTUATOR
23	S1-921-140-080		PUSH BUTTON ACTUATOR
24	S1-921-140-190		PLAY BUTTON LEVER
25	S1-921-030-100		MG ARM SPRING
26	S1-921-140-040		REW BUTTON LEVER
27	S1-921-140-050		FF,BUTTON REVER
28	S1-921-140-060		STOP BUTTON LEVER
29	S1-921-140-600		PAUSE BUTTON LEVER
30	S1-821-100-700		FF GEAR
31	S1-921-050-060		SENSER
32	S1-921-053-100		TAKE UP REEL ASSY
33	S1-829-100-010		PACK SPRING
34	S1-921-050-150		S REEL HUB
35	S1-921-050-220		BACK TENSION SPRING
36	S1-921-140-030		REC BUTTON LEVER
37	S1-921-140-170		P.S.LEVER SPRING
38	S1-921-073-040		RF CLUTCH ASSY
39	S1-921-070-030		RF BELT
40	S1-921-260-020		CAM GEAR
41	S1-921-140-160		E ACTUATOR SPRING
42	S1-921-093-210		FLYWHEEL ASSY
43	S1-921-090-380		MAIN BELT
44	S1-921-120-590		MOTOR PULLEY
45	S6-002-030-220		MOTOR EG530AD-2B
46	S6-209-100-100		E HEAD PH-K380-MS1
47	S1-921-030-050		MG ARM
48	S1-921-140-210		REC BUTTON LEVER SPRING
49	S1-821-100-690		RECORD SAFETY LEVER
50	S1-821-128-9A0		MOTOR BRACKET
51	S1-821-010-500		PLAY BUTTON LEVER SPRING
52	S6-201-011-110		HEAD,RP7442ES-0951
A	S9-P04-200-310		C TAPPING SCREW 2-3
B	S1-921-120-020		MOTOR COLLER SCREW
C	S9-B10-200-510		P TAPPING BIND SCREW M2-5
D	S9-C07-204-510		SCREW,TAPPING(CAMERA)M2-4.5
E	S9-P01-200-610		SCREW,M2-6
F	S9-B01-200-310		(+)BIND SCREW M2-3
G	S9-F08-200-710		AZIMUTH SCREW M2-7
H	S1-921-120-030		MB SCREW
I	S9-W02-300-100		P WASHER CUT 1.2-3.8-0.3
J	S9-W02-500-100		P WASHER CUT 1.45-3.8-0.5
K	S9-W01-400-100		P WASHER 2-3.5-0.4
L	S9-W01-130-200		P WASHER 2.1-4-0.13

CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S2-121-A28-400		COVER GEAR
2	S2-511-A21-000		GEAR MIDDLE
3	S2-511-A21-100		GEAR,DRIVE
A	S1-PN2-03R-OSE		SCR PAN PCS 2-3
B	87-261-073-410		SCR S-TPG FLT 2.6-6
ALL	M8-ZZK-E90-070		DA11T3C

ACCESSORIES/PACKAGE LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	1	8A-CD8-906-010		IB,EZ(9L)B<EZ<S>>
	1	8A-CD8-905-010		IB,K(E)B<K<S>>
	1	8A-CD9-902-010		IB,LH(ESP)B<LH<S>>
	1	8A-CD8-940-010		IB,LH1(P)KIT<519LH1J<S>>
⚠	2	87-A80-036-010		AC CORD SET ASSY,E W/FLTR VOL<EXCEPT K<S>>
⚠	2	87-A80-034-010		AC CORD SET ASSY,K W/F MAY-BG<K<S>>
⚠	3	87-A90-312-010		PLUG,CONVERSION WTN-1157R1<LH<S>,519LH1J<S>>

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

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